

CA2ALOG  
1945T78  
v.67.

Feb

Toronto Office

# The Province of Alberta



3 3398 00207 5637

IN THE MATTER OF "THE NATURAL  
GAS UTILITIES ACT"

—and—

IN THE MATTER OF an Enquiry into  
Scheme to be adopted for Gathering,  
Processing and Transmission of  
Natural Gas in Turner Valley

G. M. BLACKSTOCK, Esq., K.C., *Chairman*

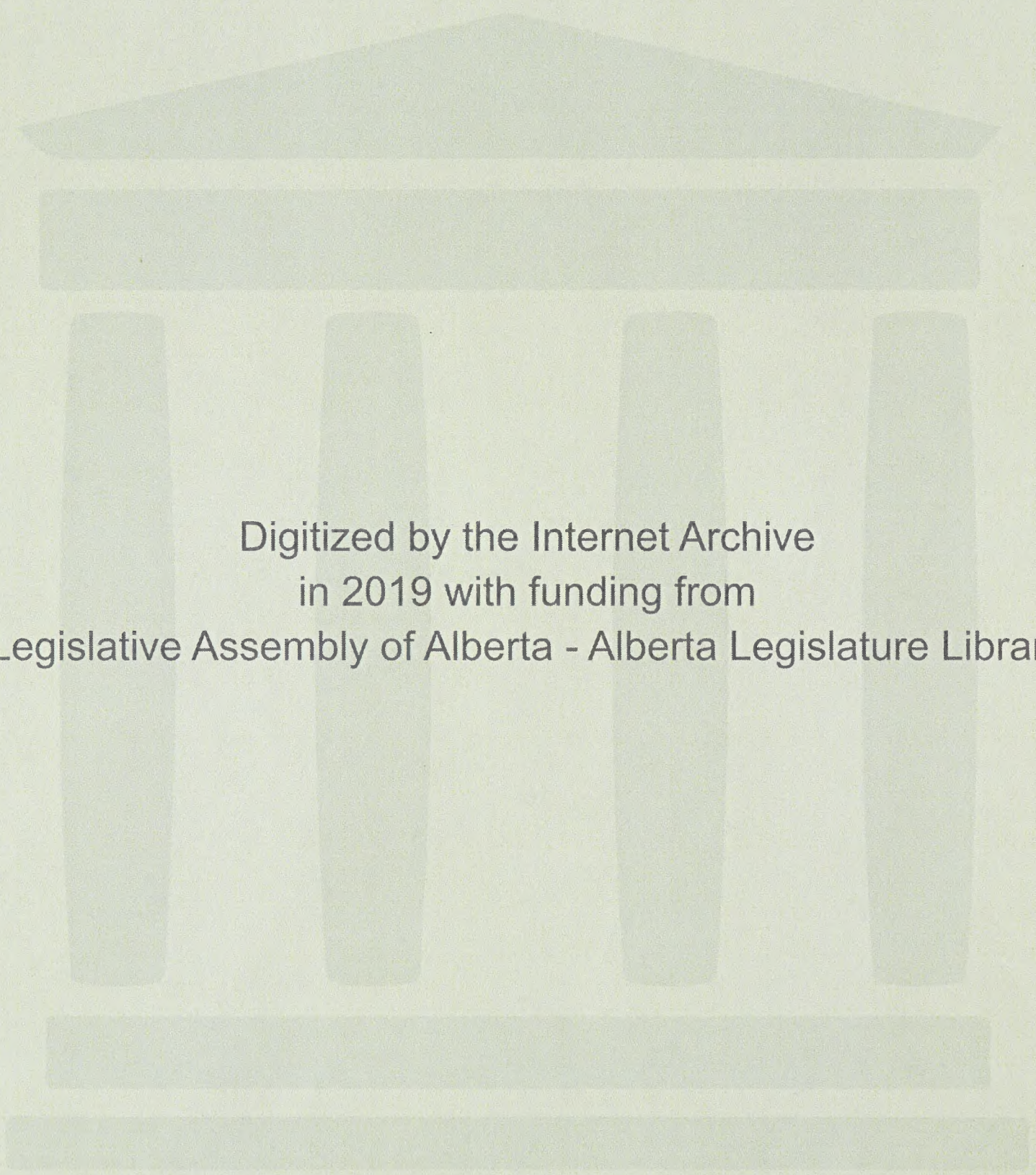
Dr. E. H. BOOMER, F.C.I.C., *Commissioner*

*Session:*

CALGARY, Alberta February 18th, 1946

VOLUME 67





Digitized by the Internet Archive  
in 2019 with funding from  
Legislative Assembly of Alberta - Alberta Legislature Library



I N D E X

VOLUME 67

February 18th, 1946

WITNESSES

RALPH E. DAVIS (Recalled)

	<u>Page</u>
Direct Examination by Mr. Steer	5400
Cross Examination by Mr. Chambers	5436

EXHIBITS

<u>No.</u>		<u>Page</u>
148	Statement Relating to Conservation of Value of Gas - Turner Valley Field, filed by Mr. Ralph E. Davis	5427





C-1-1 9.30 a.m.

Ralph E. Davis,  
Dir.Exam. by Mr. Steer.

VOLUME 67

- 5400 -

February 18th, 1946.  
Monday, 9.00 A.M. Session

MR. STEER:

Mr. Chairman, Mr. R. E. Davis

is here and I have notified my learned friends that I would ask the Board to hear him this morning if that was agreeable.

RALPH E. DAVIS, having been recalled,  
direct examination by Mr. Steer continued:-

Q Mr. Davis, you are under oath in these proceedings?

A Yes.

Q And I have asked you to make a statement on the question of conservation generally and the value of gas in the Turner Valley field and you have done that?

A Yes.

Q Will you then submit your material to the Board?

A I believe it is the custom to read the statement.

Q Yes.

A This statement is headed.....

MR. CHAMBERS: If the Court please, I do not want to be technical but the first part of this report, I submit, deals with, in effect, his opinion as to the motives of the Legislature in passing this Statute. Now I would like to note my objection to the witness giving evidence to that effect.

THE CHAIRMAN: If there is chaff amongst the wheat I will blow it out.

WITNESS: The statement is headed:

STATEMENT RELATING TO CONSERVATION AND VALUE OF GAS - TURNER  
VALLEY FIELD

February 15th, 1946.

I have read The Natural Gas Utilities Act and,  
based upon my familiarity with the Turner Valley Field







Ralph E. Davis,  
Dir.Exam. by Mr.Steer.

- 5401 -

and its history - including the history of the enormous waste of gas in earlier years, and of the circumstances which led to a single operator controlling the principal market for gas produced and saved, it has seemed apparent to me that the main purpose of the Legislature was to require natural gas wastage at Turnor Valley to be brought under control, and also to require a dividing of the market among all gas producers in the field. Of these two purposes that of conservation, I believe, must be considered the more important, because the result of conservation is important to the citizens of the Province generally; whereas the division of the market is important to relatively few people.

I would like to say in regard to Mr.Chambers' observation and objection that I had had notice that the Board had taken action with regard to the gas wastage as its first step, and following that was the determination of the value.

The determination of just and reasonable prices for gas, both at the well-head and at other points of delivery, is a duty for this Board to perform, after performing the duty of bringing about a reasonable degree of conservation, and after developing and inaugurating a plan whereby all producers have an opportunity of sharing in the market.

Conservation, as I see it, is the important matter causing the Legislature to take action. The dividing of the market, and the determination of fair and reasonable prices, are necessary but nevertheless corollary matters.

Conservation is a comparatively new thing in North America. For 300 years the white man has been conquering and putting to his use the land, the minerals, the oil, coal, gas, water power, timber, etc., and during those 300 years has been a very wasteful citizen. It is estimated that not







Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5402 -

less than 25% of the tillable soil in the United States has already eroded, and erosion of soil is presently continuing at a fearful rate. Our forests have been so denuded by the axe and by fires, that it is no longer possible to secure any but a very limited amount of good lumber.

The mining of coal in the United States has proceeded to a point where our best coals are nearing exhaustion. Within another generation we will have little coal of the type now used for making manufactured gas.

Oil was produced throughout 75 years by methods now known to have been very wasteful; the principal waste having been caused by the excess production of gas from the oil fields, resulting in a rapid decline in pressure and the leaving under-ground 75% of the oil in place. During the last 10 years great improvement has been made in oil producing methods, the improvement having been brought about by a better understanding of the principles by operators, and also by state regulation. Natural gas was treated as a waste product in many fields in the United States and in Canada, but during the last 15 years there has been a notable decrease in gas wastage in most of the States. For example, in California in 1924 62% of the natural gas produced went into useful service and 38% went into the air. In 1932 98% of the gas went into useful service and 2% went into the air. This notable achievement in conservation was brought about largely by the effectiveness of legislation requiring oil producers to find a useful market for their gas, or to shut in their wells.

I might say that in California the larger part of the natural gas which is taken to market, comes from the oil fields, and a minor part from what we







Ralph E. Davis,  
Dir.Exam. by Mr.Steer.

- 5403 -

call "dry gas fields".

In Texas, as recently as 1935, nearly 1 billion cubic feet of gas was daily vented to the air in a single field. Today the only gas vented to the air in that field is a bit of the oil field gas produced in such volume by individual wells as to be considered unworthy of gathering. Also gas is lost in the completion of wells, in working over wells and in making open flow tests of wells. The total waste today approximates but  $2\frac{1}{2}\%$  of total gas production.

Now there I am talking about the Amarillo field.

In Texas a well is classes as a gas well if its gas-oil ratio exceeds 100,000, and if it be a gas well it is unlawful to waste the gas. Production from wells having gas-oil ratios exceeding 2,000 cubic feet per barrel of oil is limited.

That is to say, if in a given field a well is producing a gas-oil ratio of less then 2,000 feet, that is considered a normal reasonable amount of gas, whereas another well in the same field if the gas-oil ratio exceeds 2,000 feet, then that second well is given a lower allowable, something quite similar to the Brown Plan in Turner Valley.

In Louisiana a well is classed as a gas well if the gas-oil ratio exceeds 30,000.

The reason Louisiana has a lower figure and Texas higher, the Texas law was passed many years earlier and at a time when 100,000 feet per barrel was a figure agreed upon by the Legislators.

In Louisiana large volumes of gas, 400 or 500 million cubic feet were daily vented to the air in the Rodessa field in 1936-7-8. There is still a substantial loss of gas in that field because from an economic standpoint







Ralph E. Davis,  
Dir.Exam.by Mr. Steer.

- 5404 -

it has not been found feasible to make use of all casing-head gas being produced. Generally speaking, gas is being conserved in Louisiana.

The program of improved conservation in the States has been brought about in part by a changed attitude on the part of the producers, and also in part by State regulation. I know of no case in the States where the cost of conservation, it says "conservation" here, the way it reads, but I mean "gas conservation". I know of no case in the States where the cost of gas conservation is borne by any party other than the party wasting the gas.

This Board may be interested in the progress of conservation and of present efforts to control gas waste in certain oil fields in the United States. I have pointed to the excellent results obtained in California as early as 1932 and to the method employed to accomplish the end. In Texas, although a high degree of conservation of gas produced from gas reservoirs was accomplished by 1936, the efforts to conserve oil field gas have been more recent and to date much less effective. I would say that, broadly speaking, the results have been comparable to the conservation resulting in Turner Valley by the introduction of the Brown Plan. That is, waste has been notable reduced, but not eliminated.

The present effort is reflected in the plans and activities of the Texas Railroad Commission. The following excerpt from Rinchart's Oil Report for February 11, 1946, is to the point:

The Rinchart Report, I should say, is a bulletin, issued I think, six days a week, at least five days a week in Houston, Texas, giving news of oil and gas matters relating to the Gulf Coastal region.







Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5405 -

Now quoting:

" The Texas Railroad Commission will, at 10 A.M. Wednesday, February 20, 1946, hold an informal hearing in the Rice Hotel, Houston, for the purpose of discussing and determining what should be done with the casinghead gas now being flared from oil wells in the following fields: "

and in the report there were listed 52 fields by name, 54 fields by name, and again quoting:

" The following data will be required from each field - gas oil ratio of the field, present disposition of gas produced with the oil, how much gas is being flared in the field, the GPM content of the gas, referring to the gasoline, the practicability of storing the gas in gas reservoirs or depleted oil reservoirs, and whether or not it is feasible to reinject the gas for pressure maintenance in the field, and if gas is now being compressed for re-pressuring purposes what is the cost of compression.

The results obtained from this informal hearing will be taken by the Commission under advisement to determine what additional rules and regulations should be promulgated as to gas-oil ratios, gas lift operations and whether or not additional forms and orders will be necessary for the metering of such flared gas and gas lift gas."

(Go to page 5406)







M-1-1 - 9.45 A.M.

Ralph E. Davis,  
Dir. Exam. by Mr. Steer

- 5406 -

It is true that the Federal Power Commission has required certain changes in the price of gas, not only when sold to consumers but in the field. The problem before the Federal Power Commission in the Denver cases and in the Panhandle Eastern case was not one of conservation. The problem before them was one of earnings. In none of those cases was there any question of gas being wasted, and what the Federal Power Commission did, and what the Supreme Court said they had a right to do, was in no way related to the problem of conservation, which is the principal problem in Turner Valley and before this Board.

I might say there that the Federal Power Commission in an investigation of prices being paid for gas produced in the Monroe field of Louisiana had found that all the prices being charged by the several principal producers was practically the same in each case, the Federal Power Commission found that one producer was entitled to a higher price than some other producers, not because there was wastage or any thought of wastage, because one producer was making a little more money, therefore should get a lower price for gas in the same field and that is the basis for my statement that the question before the Federal Power Commission was principally that of earnings.

I have reviewed the testimony of Mr. Zinder, in which he analyzes the value of gas from at least three stand-points - (1) comparing the relative value of gas and other fuels, such as coal, and using the cost of such other fuel as a basis for determining the price for gas, (2) endeavouring to value the gas at the well-head on the public utility theory of pricing, and (3) by comparing the Turner







Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5407 -

Valley gas and its value with prices that are being paid in various parts of the United States.

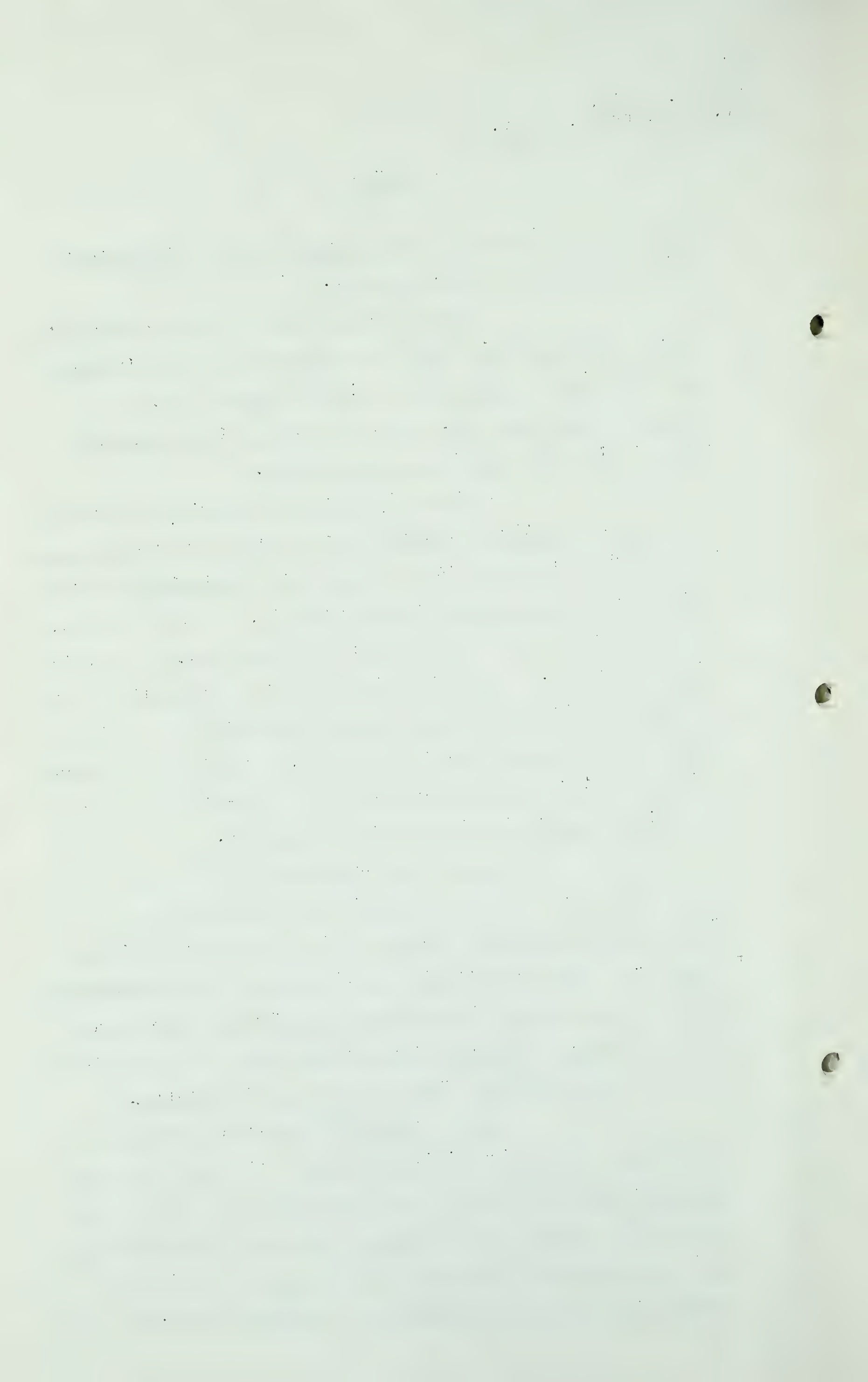
Regarding the value of gas as compared to coal, I will say that this is a method used when an industry has its choice between coal or oil or gas for fuel, or a choice between two coals, and the industry will generally choose that fuel which is least expensive.

In the United States the price of natural gas sold to domestic consumers and to certain other consumers is under the control of the various State Commissions and the approach to the problem of fixing price is, so far as I know, based upon cost and a fair return; in other words, the public utility approach. I do not believe that the comparative cost of using coal in the Calgary market has anything to do with what the gas should sell for in Calgary, and this sort of comparison is not to my knowledge used as a yard-stick anywhere by public authority in fixing retail gas rates.

To my mind discussions of the value of gas as related to coal in Calgary is of no importance as a guide to the fixing of a well-head price in Turner Valley in this case. Were we to accept the principle that every commodity is to be valued on the basis of some higher cost competitive commodity, we might find the coal dealer fixing a price for coal based upon the cost of wood, or of electricity.

When we approach this matter from the standpoint of the public utility method, we find a very complicated problem. It may be proper to fix the value of gas and the gas service for a property that has been constructed for the purpose of rendering that service on the basis of investment, cost of operation and a reasonable return. But







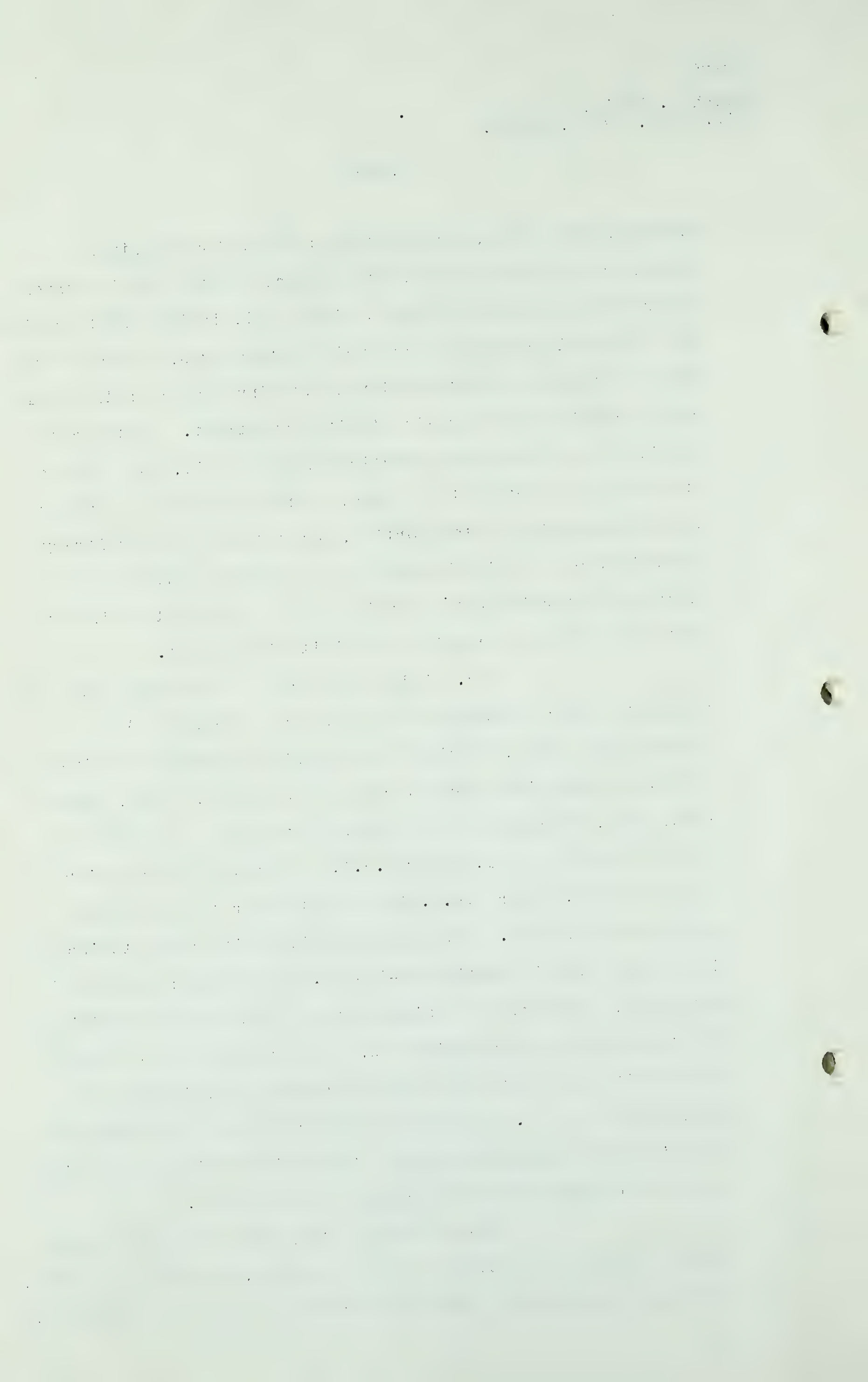
Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5408 -

when you have wells, some of them drilled for the single purpose of producing oil and the others for the single purpose of producing naphtha and not a single well in the field drilled for the single purpose of producing natural gas, I know of no way of determining what portion of the investment in the wells can be considered as public utility investment. In the case of oil wells I would say practically none of it, but whether it be none or whether it be some, I know of no way of making any determination of the portion, other than by an arbitrary determination; and in the case of the naphtha wells I know of no way of determining the portion of the well cost or investment that should be considered utility investment.

Mr. Zinder approaches the problem (although he admits the conclusions reached are not acceptable) by selecting 60 wells, finding their remaining unamortized investment and taking into account cost of operation, taxes, royalties, etc., reaches a value of gas at the top of the well in one calculation of 11.2¢ per M.c.f. In another calculation a value of \$1.00 per M.c.f. is indicated for the gas from a particular oil well. Mr. Zinder considers it proper to include 13 of the wells in Section 20-19-2 W.5 as a proper part of the rate base, although not a single one of these wells was drilled for the purpose of producing gas, and had that been the only purpose it would have been good practice to drill only one well instead of 13. In any case the problem is so complicated that it can be approached only after making arbitrary decisions as to what amount should be considered rate base.

When we look at the matter from the standpoint of what gas sells for in other places, we must, of course, take into account all facts and factors bearing on the problem.



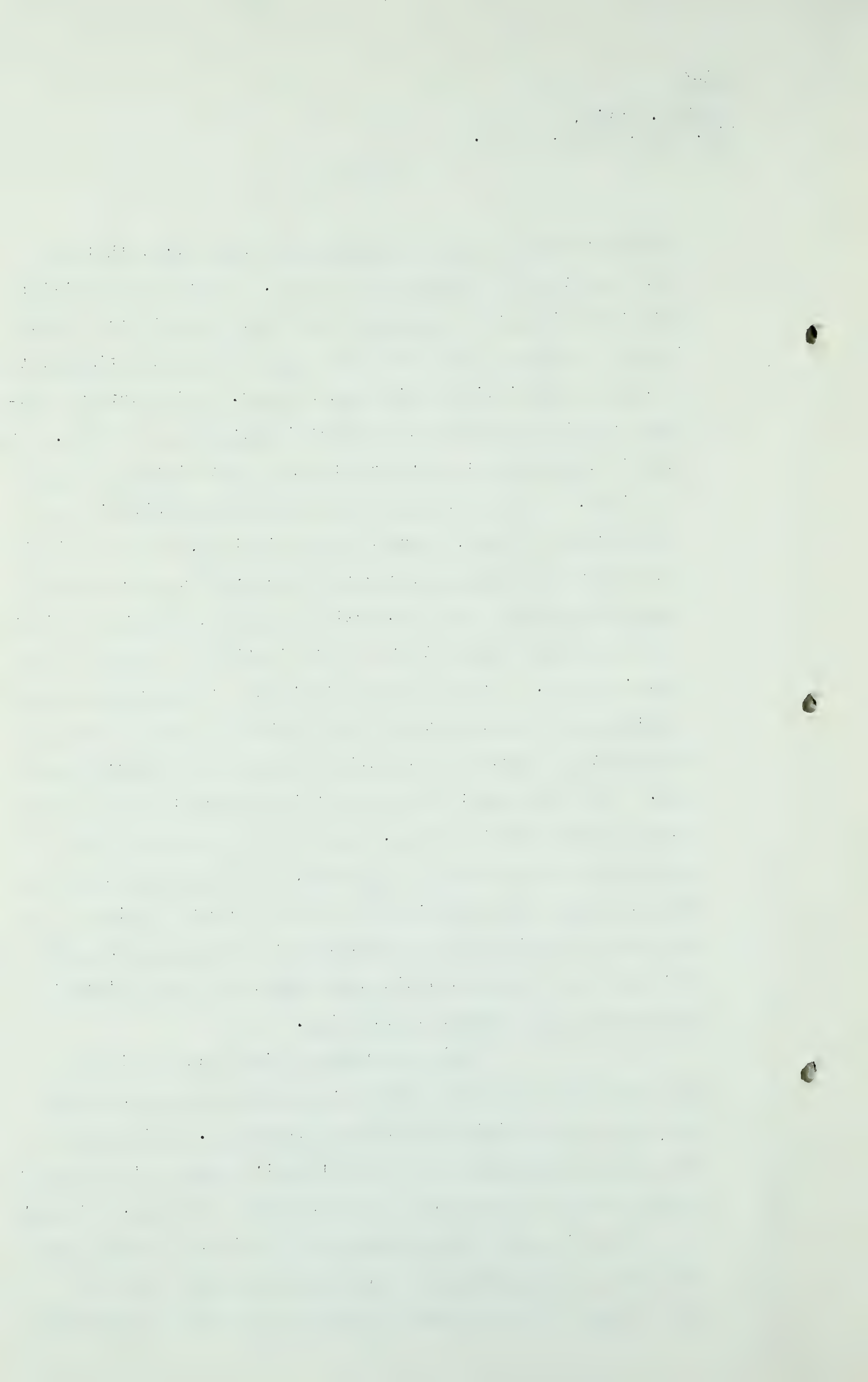


Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5409 -

In Turner Valley we are dealing with a gas supply that has been depleted by extreme waste of gas. I have been familiar with this field for many years and I have been in the field in many of those years when the waste of gas was estimated to be 300 or 400 million cubic feet per day. This wasteful program made it impossible to attract industry to the field. It made it impossible to pipe gas to any great distances from the field. Many years ago I reviewed the possibilities of piping gas to Regina, Moose Jaw and Winnipeg, and the principal reason for reaching a negative decision was because the wasteful program of gas production indicated that the project would not have a sufficient life to justify the large investment involved. I have no doubt that one or more carbon black plants could and would have been built to use Turner Valley gas had the program of production been one of conserving the gas. Again the short life made it impossible to bring carbon black plants into the field. So here we are dealing with a gas supply already largely depleted, and this means that the gas is worth less than it would be had a large portion of the gas wasted remained in the ground so that compressors would not have been required until maybe 1960, and all equipment would have had a longer useful life.

The gas from the oil wells requires a gathering line to each well and the amount of gas produced by each well is limited by legal restriction. This makes the gas more expensive to gather than it would be if a larger volume could be taken from a lesser number of wells. It must be evident that if a given volume of gas is to be taken from 20 wells it is worth more at the well-head than would the same volume of gas be worth if the gas has to be taken from





M-1-5

Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5410 -

200 wells.

To my mind Turner Valley oil field gas is fairly comparable to oil field gas in other localities. In Texas it is estimated that nearly 1 billion cubic feet of gas is currently going into the air from oil wells.

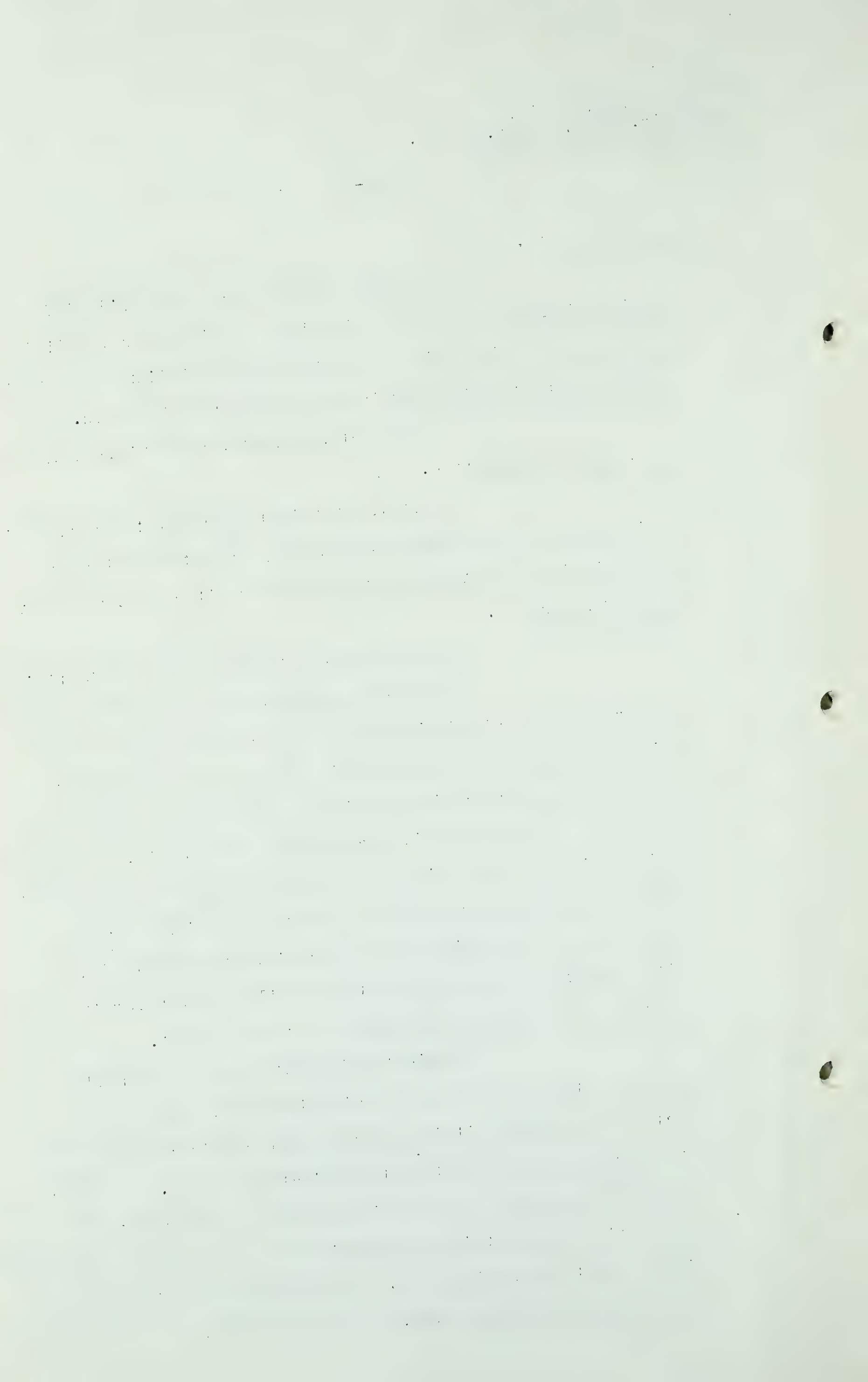
I might say that some estimates are for more than 1 billion.

It is at this time legal to produce oil in Texas up to the allowable set by the State Railroad Commission, and to flare the gas where it cannot be put to useful service.

And I would like to say where justifiable.

The oil operators there have learned that a greater amount of oil can be produced from a given field if the pressure can be maintained, and for this economic reason the practice is becoming quite general to gather the flare gas and to pump it back into the reservoir. In certain fields in Texas the oil operators have refused to sell their flare gas on the ground that as soon as equipment can be installed the gas will be put back into the reservoir, and it is considered worth more to the oil operator for that purpose than he is offered for it in the market.

I might point out here as a corollary to my last statement that in an oil field where you have an active water drive it is generally not considered necessary to repressure the field by the injection of gas. In other words the pressure can be maintained by a proper rate of production and that is the practice used under State regulation in the East Texas oil field. In certain other fields water drive is so extremely slow, if present at all, that the only





. M-1-6

Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5411 -

way of maintaining considerable pressures in the reservoir is to reinject gas so that in some fields it is important and in others it is not.

In other fields the gas is available for any market and large volumes of oil field gas are now being sold to pipelines and to other purchasers. It may be useful to consider the prices being paid under contracts made within the last year or two for oil field gas in Texas.

( Go to Page 5412 )





T-1-1 10 A.M.

R. E. Davis,  
Dir. Exam. by Mr. Steer.

- 5412 -

One large purchaser is the Tennessee Gas and Transmission Company. This Company has adopted a basic policy in the matter of purchasing gas and that policy is to pay 5¢ per M.C.F. during the first 5 years; 6¢ per M.c.f. during the second 5 years and 7¢ per M.c.f. during the third 5 years; the gas to be delivered into the main line of the Company, and during the first 5 years at not less than 750 lbs. pressure per square inch, and at not less than 500 lbs. per square inch thereafter. The gas is measured on a 16-7/10 lbs. pressure base and that gas, of course, must be sweet gas, and it must have had the moisture reduced to a suitable amount. When you compare gas at 5¢ and delivered at 750 lbs. pressure and measured on a 16.7 lbs. pressure base, with the gas being delivered to the Canadian Western system in Turner Valley, where the price is 4 3/4¢ for gas delivered at pressures up to 300 lbs. and measured on a 14 lb. pressure base, we find that the real comparison is approximately 3 1/2¢ in the case of the Tennessee purchase and 7 3/4¢ in the case of the Canadian Western purchase.

A large percentage of the gas purchased by the pipeline companies in the States is not purchased at the well. When Mr. Zinder tells you about the gas purchased by the Natural Gas Pipeline Company of America, he is telling you about gas that has been gathered and transported, some of it as much as 100 miles where delivery is made to the buyer, and he must admit that the price of that gas is comparable to the price being paid by Canadian Western for gas gathered and delivered into its pipeline.



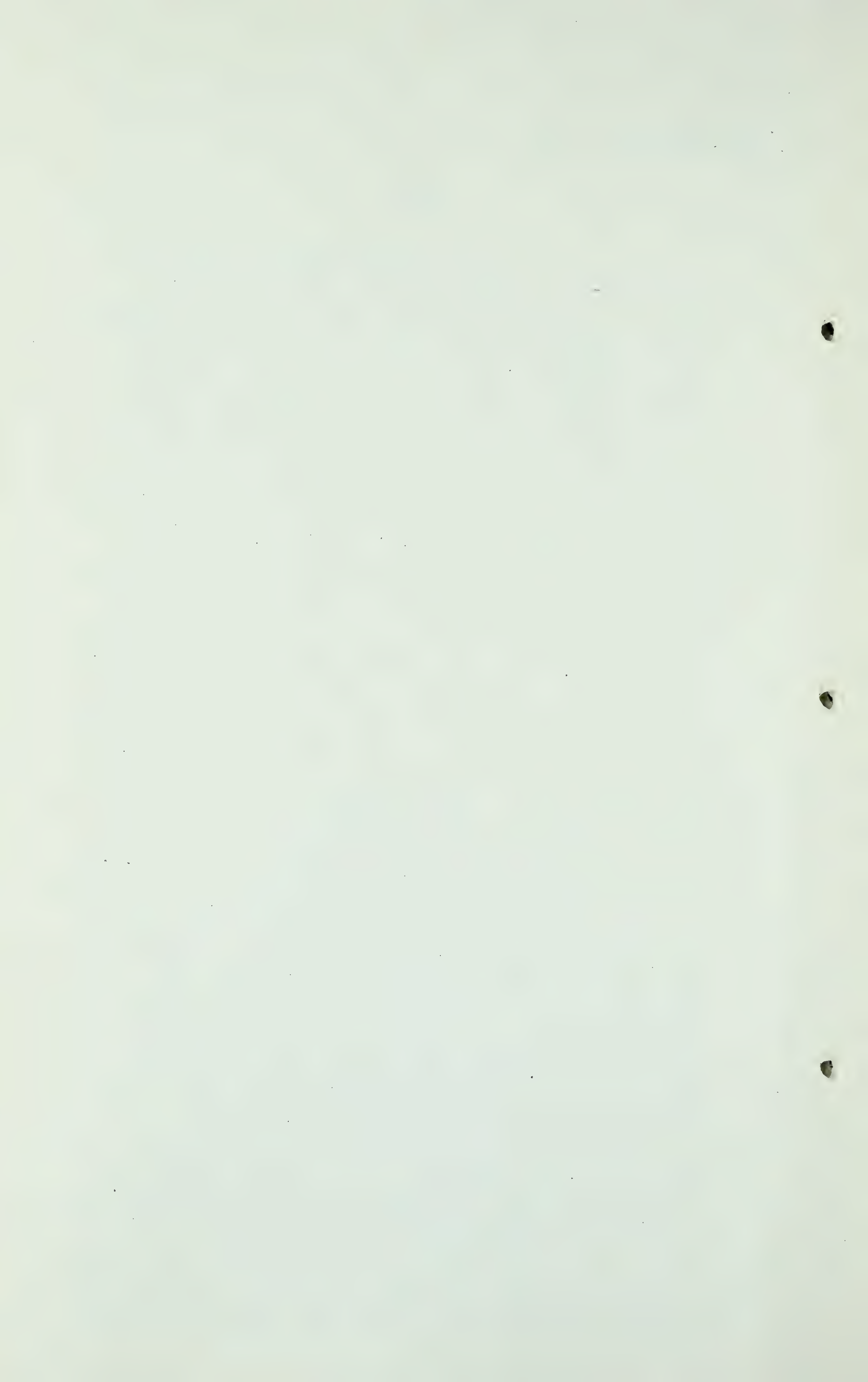


T-1-2

R. E. Davis,  
Dir. Exam. by Mr. Steer.

- 5413 -

A very recent group of contracts covering gas to be purchased have been entered into between the Michigan-Wisconsin Pipe Line Company, buyer, and the Phillips Petroleum Company, seller; and again between Phillips Petroleum Company, buyer, and a group of 4 companies as sellers. One of the selling companies is the Stanolind Oil and Gas Company, and I propose to tell you about these contracts, because it is an instance where we can find a price to be paid at the well-head. For the first 5 years Michigan-Wisconsin pay Phillips 5¢ per M.c.f. for gas gathered and delivered at a pressure of not less than 200 lbs. and measured at a pressure base of 16-4/10 lbs. Phillips will produce a large part of the gas sold under that contract, and Phillips will gather the gas, and when compression is needed Phillips will compress the gas and remove gasoline and water vapour. Phillips in turn will buy from Stanolind and others a substantial part of the gas we are talking about and during the first 5 years they will pay Stanolind 4¢ per M.c.f. at the well for gas measured at 16-4/10 lbs., the gas retaining its gasoline content, which Phillips will have the right to recover. When you see what the price of this gas is if measured on a 14 lb. base, we find the figure to be 3.4¢. For gas containing more than 1 grain of Hydrogen Sulphide per 100 cubic feet, the price is reduced  $\frac{1}{2}$ ¢. This means that for sour gas, measured on a 14 lb. pressure base, and with a delivery of approximately 1 million cubic feet per well per day, a price of 2.9¢ per M.c.f. has been agreed upon for a period of five years. During the second five-year period the price is  $\frac{1}{2}$ ¢ higher,





T-1-3

R. E. Davis,  
Dir. Exam. by Mr. Steer.

- 5414 -

during the following ten-year period an additional  $\frac{1}{4}\%$  will be paid, and during the next ten year period an additional  $\frac{1}{4}\%$  will be paid.

I would to explain, Mr. Chairman, if you think it worth while, a little bit about these various pressure bases. I think there is, maybe not any more here, but in many other places a confusion and a misunderstanding.

THE CHAIRMAN: I would like to hear how you convert them too.

A I will try to explain that. The natural gas business started, as you know, back in the Eastern States, in Pennsylvania. There was a small business in New York State even before the Pennsylvania wells started to be used. In that territory, due to the elevation above sea level of some 7 or 8 hundred feet, the normal average atmospheric pressure at the surface is about 14.4 lbs. as compared to 16.73 lbs. on sea level. So that is where the 14.4 gets its start.

Q MR. STEER: Sea level is what?

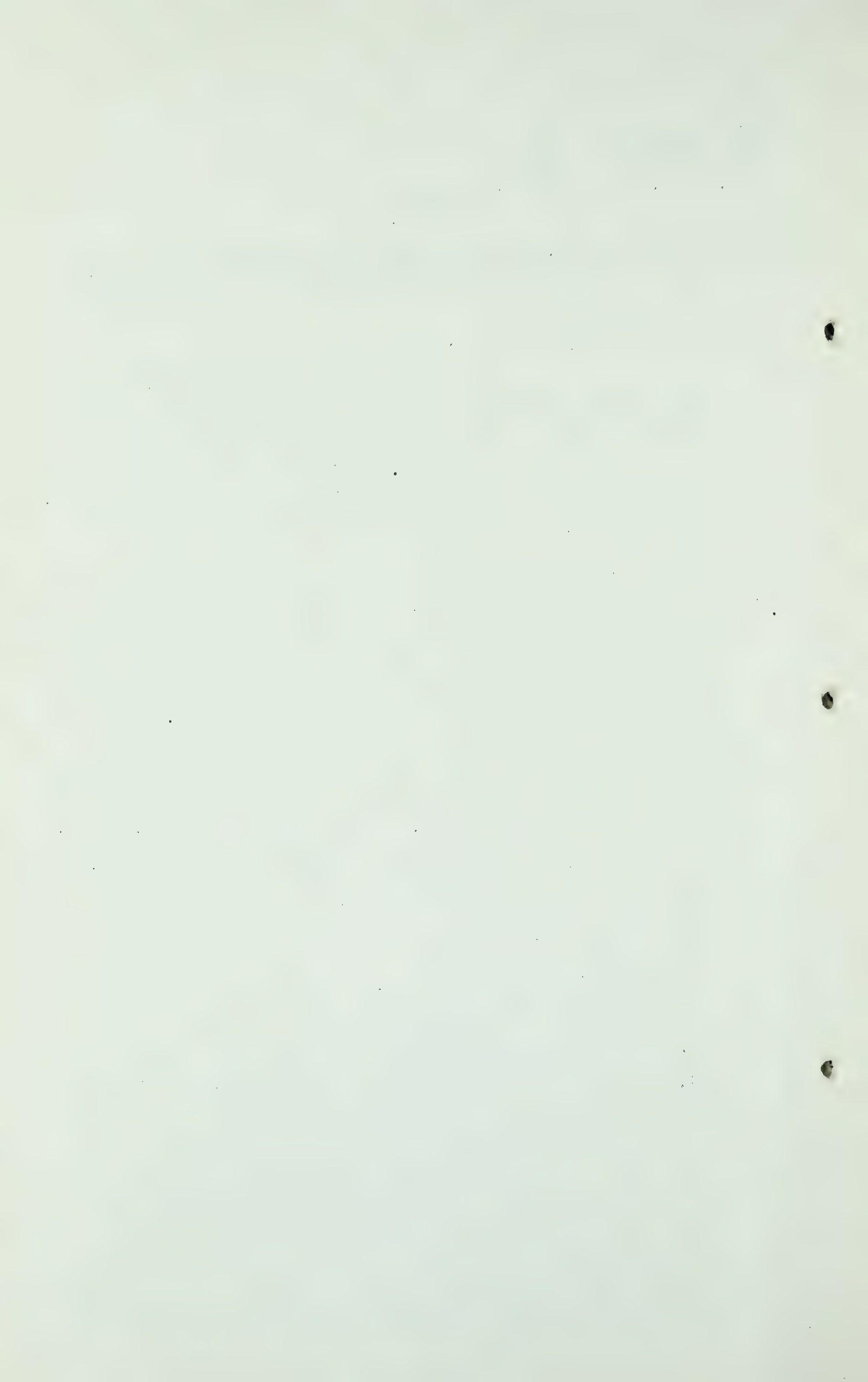
A Sea level is 14.673.

Q You said 16.

A I am glad to be corrected.

Q MR. HARVIE: 14 point?

A 14.673 lbs, commonly referred to as 14.7 lbs. So at the top of the ground in Pennsylvania, Ohio and West Virginia, the average pressure of the air had been found to be about 14.4 lbs. In those early years, the gas was piped in the first place not very far and the pipe used was screw-end pipe, a pipe that could not be made tight and there was considerable leakage and the gas operator, if he bought gas in the field on the same pressure base that he sold it in



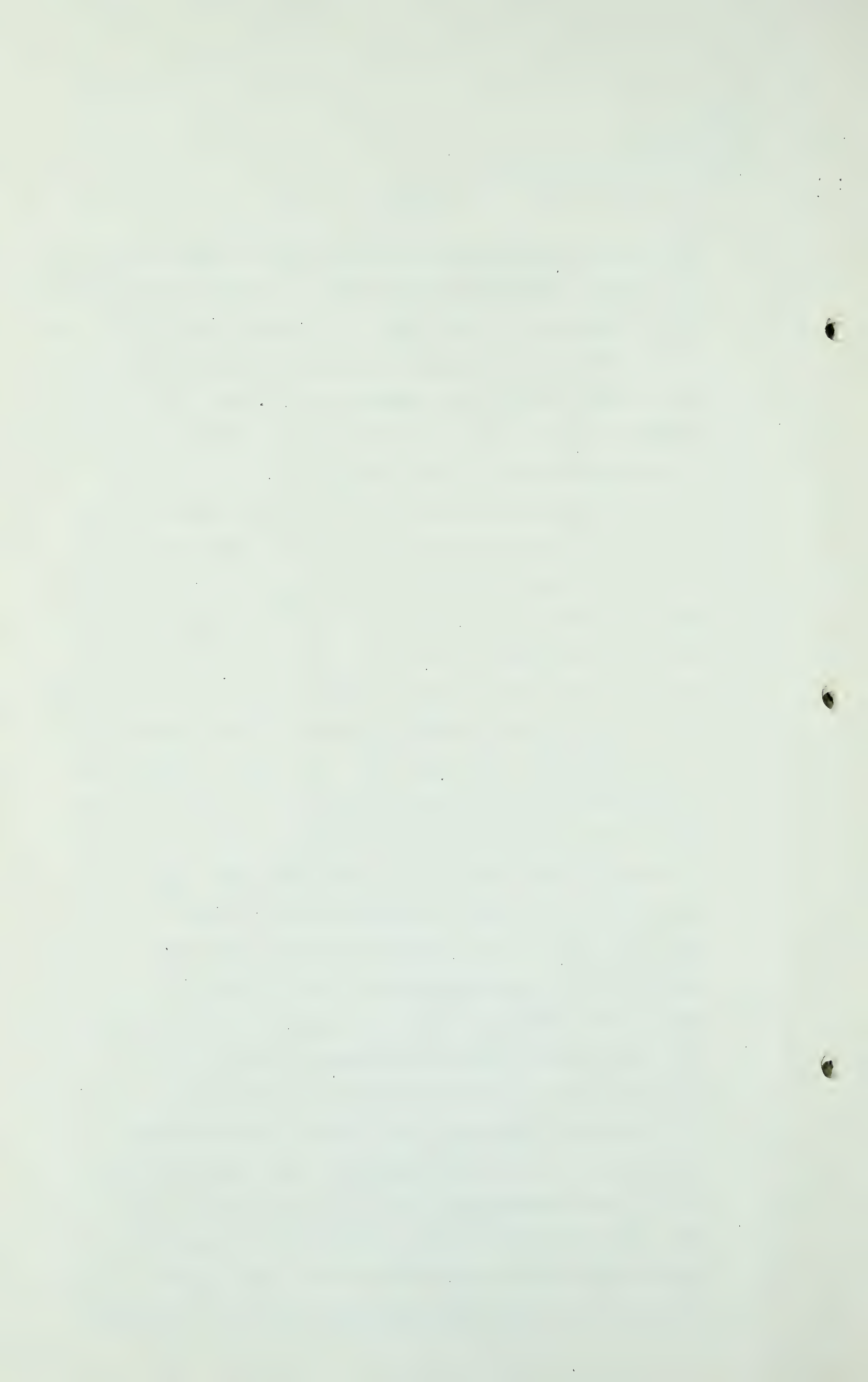


T-1-4

R.E. Davis,  
Dir. Exam. by Mr. Steer.

- 5415 -

town or in his market, he naturally had a substantial loss and it was considered fair he buy on a little higher pressure base to make up for that loss. The common differential was 2 lbs. That was the common pressure. So that they bought gas in West Virginia and Pennsylvania on the 16.4 lb. basis. That practice was carried to other parts of the United States so that operators in Texas buy their gas at 16.4 pounds pressure base, although the wells are practically at sea level and if they wish to buy at 2 lbs. above the actual average pressure of the locality, they would take 14.7 lbs. and add 2 lbs. to that. So we find the Tennessee Gas and Transmission adopt as a base 16.7 lbs. We find Michigan and Wisconsin buying in the Hugoton field, which is in the South West corner of Kansas extending across Oklahoma into North West Texas, there at 16.4 lbs. Here in Calgary the average atmospheric pressure, I am told, is about 13 lbs. and when the contract for the purchase of gas was made - I did not sit at that table - but it is quite apparent I believe that the basis for measuring gas adopted was to take the atmospheric pressure at Calgary and add 1 lb. and that is where we get the 14 lbs. If a company in buying gas in South Texas and sold it in Denver, where the elevation is a mile and the average atmospheric pressure must be something like 12 lbs. and sell it to the citizens at 12 lbs. plus 4 ounces, they would get almost a 25% advantage in the quantity of gas and they would retain that advantage if they had a welded pipeline and practically no loss of gas. But after all the Gas utilities are under supervision and whether they gain or not in this matter of gas measure, the Utility Board usually look at the earnings





T-1-5

R. E. Davis,  
Dir. Exam. by Mr. Steer.

- 5416 -

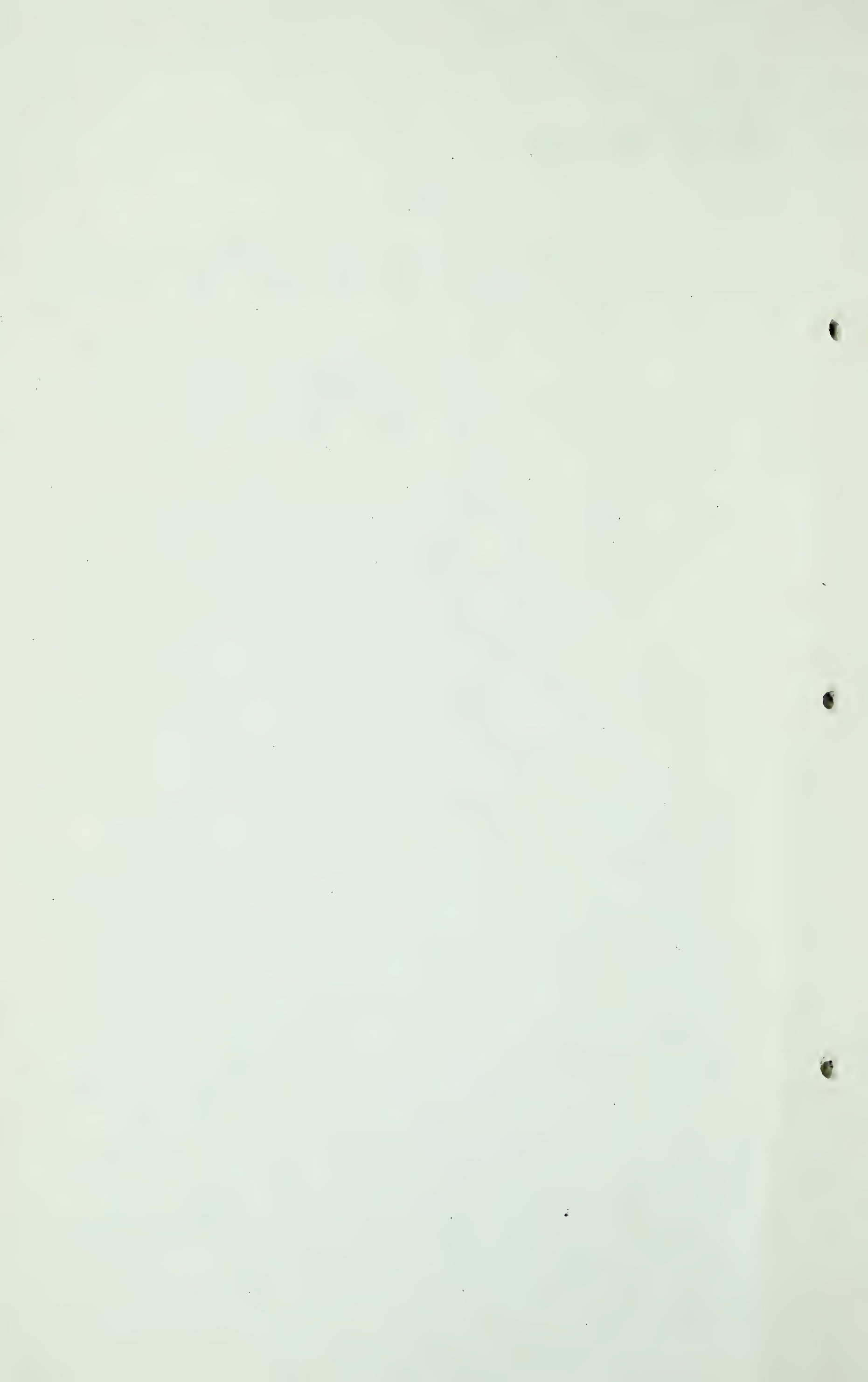
and if as a result of that or any other thing they burn more than an amount considered reasonable, their rates are fixed, the rates are changed.

Now, Mr. Chairman, you suggested that I try to explain how we made these calculations from one pressure base to another. Is that your request?

Q THE CHAIRMAN: Yes.

A Well, in the measurement of gas, if we adopt the average atmospheric pressure of 14.673 lbs. and measure gas in the cubicle space of 1 cubic foot at that pressure at a temperature of 60 degrees, we will have a cubic foot of gas which has been defined as the standard cubic foot. From Boyle's Law we know that the quantity of gas present in a given space is directly related to the pressure, temperature being constant. Ignoring for the moment the deviation of natural gas from perfect gas, which deviation is practically nothing when we are dealing with very low pressures. Now if we double the pressure, that is 14.67 plus 14.67 we have 29.4 lbs. pressure and the amount of gas present in a cubic foot, that is at 60 degrees, is twice as much as we had in the first measure and at every stage of pressure in between the two. I have given you the pressure of one atmosphere and second two atmospheres; one cubic foot of gas and two cubic feet of gas. Now if we had  $1\frac{1}{2}$  atmospheres, we would find in our cubic foot of space  $1\frac{1}{2}$  cubic feet of gas. We can thus determine by ordinary arithmetic how much gas is present if the pressure be 16.4 lbs. or any other number of lbs. as compared with gas measured at 14 lbs. as an absolute or at a pressure of 14.673 or any other basis.

Q Thank you.





T-1-6

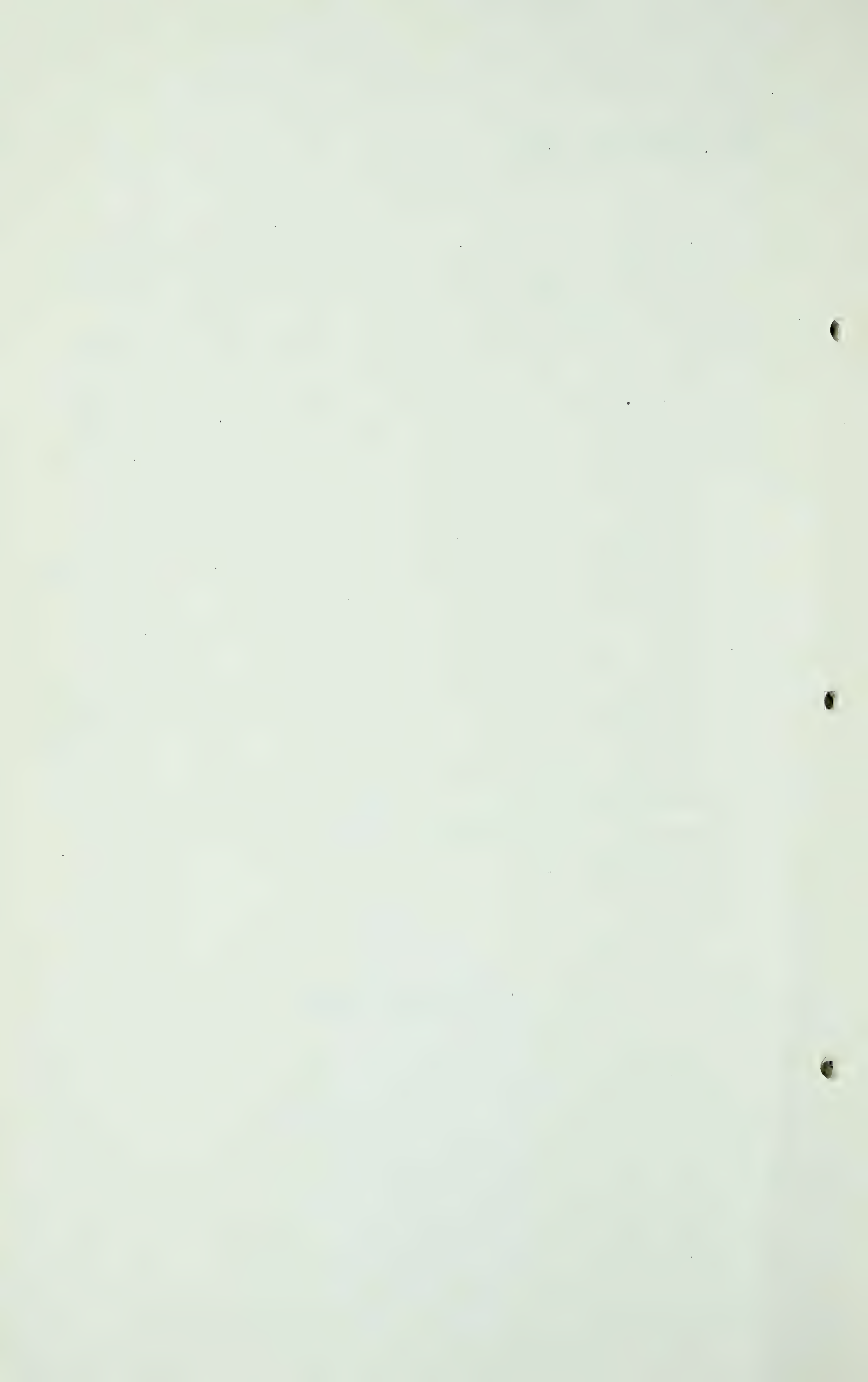
R. E. Davis,  
Dir. Exam. by Mr. Steer.

- 5417 -

Q MR. HARVIE: Just on that, Mr. Davis, you mentioned at low pressures. Is that law carried into high pressures?

A You are referring now to the deviation of certain gases from the law of Boyle. According to Boyle's Law, gas does not deviate from the straight line relationship as between pressure and quantity of gas present in a space. That was determined, I suppose, a couple of hundred years ago by the scientist, Robert Boyle, and without apparatus to note refinement, he did not deal probably with natural gas. I do not know what gas he was using, probably air. In any case it has been found by experiment that there is a deviation from the Boyle Law relation and most of the gases which comprise our natural gas and the deviation differs, methylene ethane and and/others. It is not a constant relation. And that deviation varies with the pressure rate. In other words, between an atmospheric pressure of 100 pounds the deviation is slight. Somewhere around 800 or 900 or 1000 lbs. the deviation is very substantial.

(Go to page 5418)



C-2-1 10.15 a.m.

Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5418 -

And I think around two thousand or twenty-five hundred pounds the reverse relationship exists, that is to say, the gas is not continuing to deviate at a greater amount, but I do not know why I should be talking about this when Dr. Katz is here.

Q MR. HARVIE: I thought it would be an opportune time to have it on the record, and on the other point, gas at 10 lbs. if it is at 10 lbs. and increases to 20 lbs., what about the volume?

A When the gas is at 10 lbs. are you talking now after re-  
ressuring?

Q You took 14.67?

A Now that 14.673, that is above zero and that, you could have 10 lbs. below zero or you might have 10 lbs. above atmosphere.

Q Above atmosphere?

A Yes.

Q Will you explain that?

A Well that 10 lbs. atmospheric air pressure is 24.67 pounds, that is your actual absolute pressure. At 20 lbs. it is 34.67, so you are asking me if there is twice as much gas in a given pressure if the pressure relationship be 34 lbs. with relation to 24 lbs. and it is not.

Q It would be the relationship of 24 to 34?

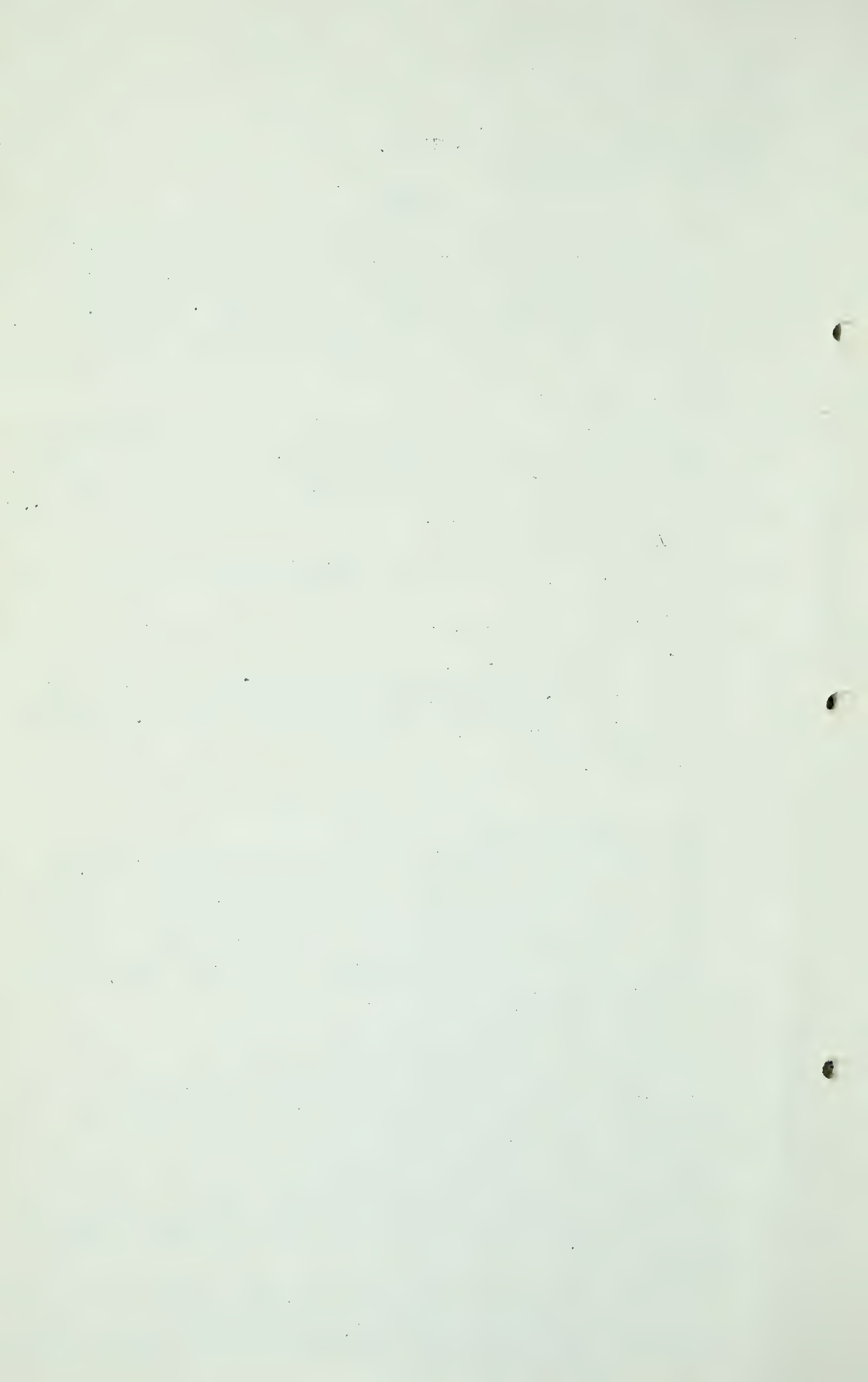
A The quantity will be in that relationship, 24 to 34.

Q Supposing there is a relationship at, we will say 2400 lbs. and 3400 lbs., would that be the same?

A I will have to refer to Dr. Katz for that answer. I think Dr. Katz would be able to tell you but I have not given it much thought.

However, 2400 and 3400, again the answer is "No".  
I do know enough to say "No", because you are not dealing with





Ralph E. Davis,  
Dir.Exam.by Mr. Steer.

- 5419 -

twice as much pressure.

Q But the same relationship?

A Oh, I think that is quite involved.

Q Beg pardon?

A I think it is quite involved. I would not want to give an offhand statement. Shall I proceed?

I am talking here now about the purchase of gas which may be produced, of gas from the Stanolind and the several other producers who have contracted to sell gas to Phillips in the Hugoton Field. I am talking now about the sales of those producers.

It is expected that each well will deliver into the line for many years not less than 1 million cubic feet per day, and that the load factor will be so high that the delivery will be approximately constant throughout the year. This gas is sweet gas purchased at the well-head on a basis equivalent to a 14 lb. base and at 3.4¢ with its gasoline content.

Q THE CHAIRMAN: Mr.Davis, do you know what the GPM is in that field?

A I believe it is about 250, gallons per million, U.S. gallons. It is not a rich gas. However, it is of value for this reason, it is anticipated that this pipe line which will be a 26 inch line, and operated at very high pressures, in the neighbourhood of a thousand pounds, the throughput, it is anticipated will be about 300 million cubic feet per day. The gasoline recovery plant will be able to handle the gas stream after it has been raised to this high pressure and for the reason that it will handle a very large volume per day and at nearly a constant rate throughout the days of the





Ralph E. Davis,  
Dir.Exam. by Mr.Stecr.

- 5420 -

year, and because it will handle gas at the higher pressure, therefore the plant will be smaller although built to handle high pressure gas. The cost will be really, - they may make as much money out of a 250 gallon recovery as under other circumstances you could make on a 400 or more.

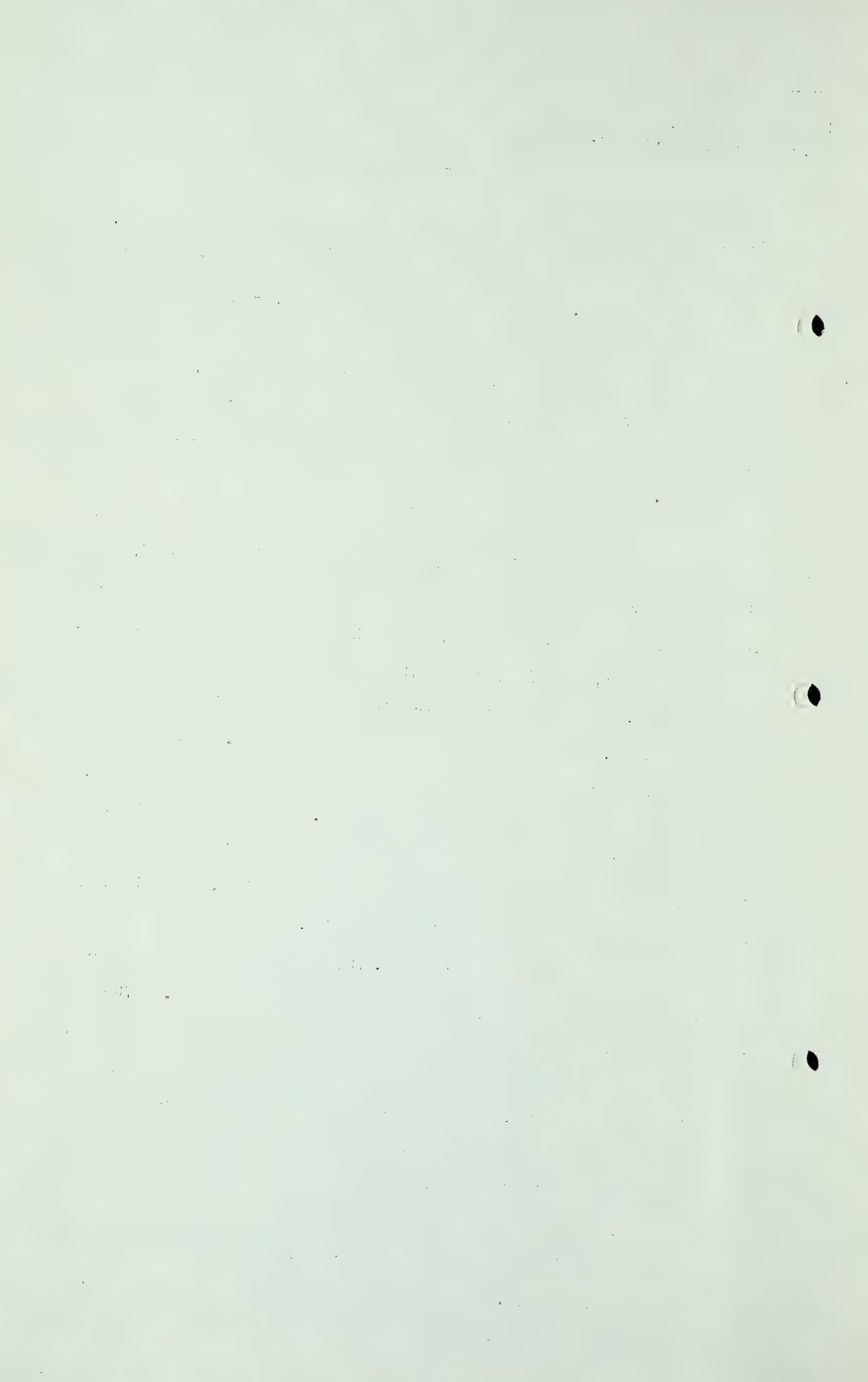
If it were sour gas and stripped of its gasoline content it would be worth substantially less than 3¢ at the well head.

The average price paid in 1945 for all gas purchased by the United Gas Pipeline Company was approximately 3 $\frac{3}{4}$ ¢, the United Gas Pipeline Company being a company which operates in South Texas and in Louisiana, both South and North Louisiana, in Mississippi, in Florida and Southwesterly their line extends into Mexico, and they have operations up in the Panhandle of Texas as well, and they sell gas in North Texas, a company that handles a throughput of nearly 1 billion feet per day, that is about 340 billion feet per year. I am only bringing that out to impress upon you that it is not an isolated instance of a small company paying a small price. It is the biggest natural gas company in the world.

This gas was sweet gas. Some of this gas was purchased in the field and practically at the well-head. Some of it was purchased after having been gathered by the seller; some of it had been stripped of its gasoline and some of it retained its gasoline, which United recovers in extraction plants on its pipe line system. This goes to show that where gas is plentiful, gas is cheap.

It is well known that the price of gas is largely affected by the law of supply and demand.

I think Mr. Zinder recognized that and put it into the record as his view.



Ralph E. Davis,  
Dir.Exam.by Mr.Steer.

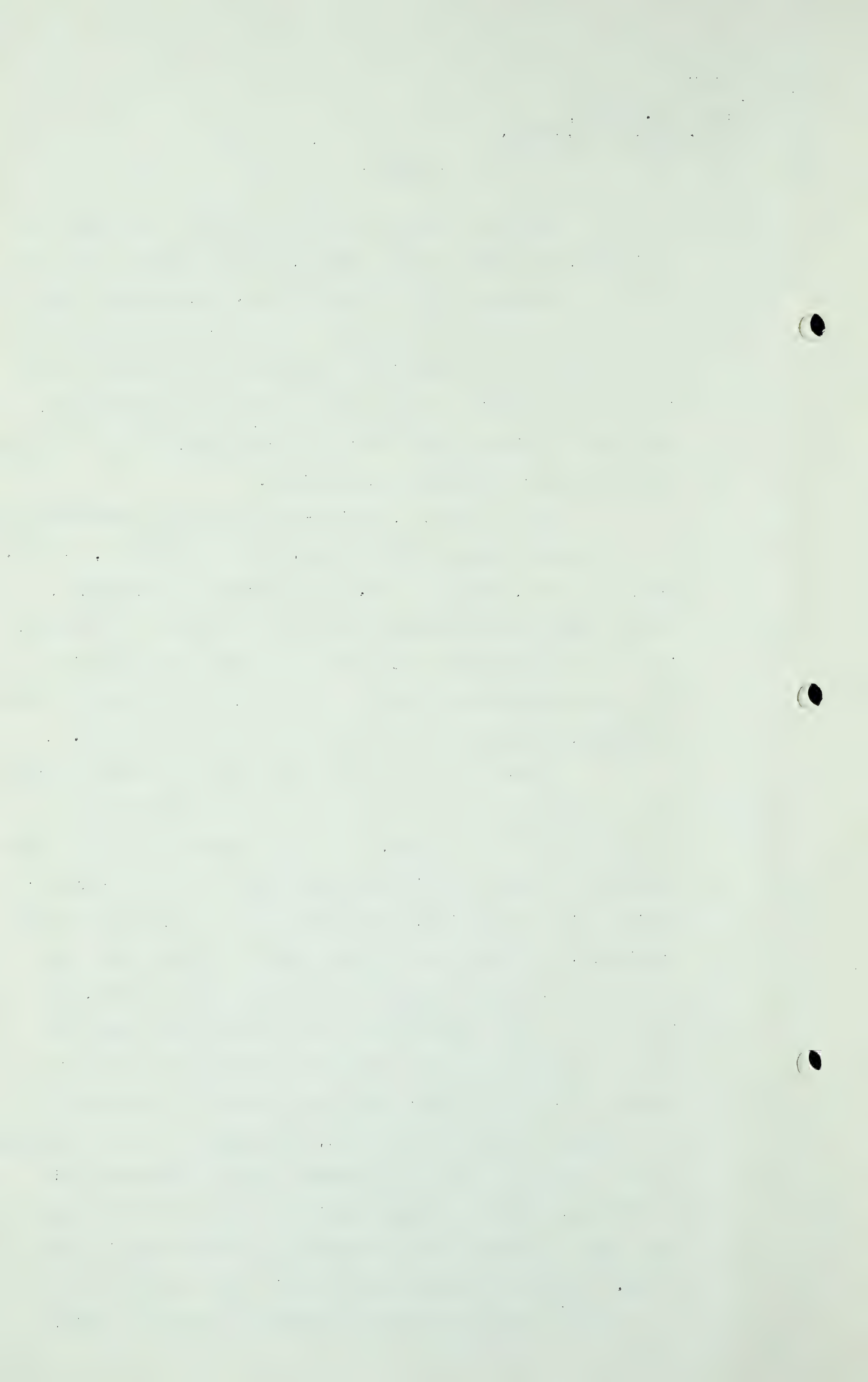
- 5421 -

Wherever there is a demand for more gas than is available, the price trends upward, as has been the case in Ontario and Pennsylvania for many years. In regions where there is an excess of supply over demand and particularly in places where the gas supply is casing-head gas being flared into the air, making it expensive to gather and transport, the price is always well under the prices paid for gas obtainable under more favourable conditions.

That is to say, casing-head gas is seldom available at a pressure of more than 100 lbs. at the separator, 75 lbs. is more common, 40 and 50 lb. pressures are not uncommon, whereas when you are buying gas at the gas well, you seldom, in these Western fields, Southwestern fields, are dealing with pressures as low as that, frequently as high as 1000 lbs., sometimes, of course, only three or four hundred pounds.

I know of no way of making pencil figures to show just what price should be paid for gas in Turner Valley or for gas in any other field. It is the custom to reach a price agreement through negotiation, and both sides to the undertaking bring to the table such facts and such judgment as is available. I believe that in the end the Board will have to reach a conclusion based largely upon its judgment, and in reaching its conclusion the Board undoubtedly will give consideration to the fact that the depleted condition of Turner Valley has resulted from the practice of flaring the gas through the many years past, resulting in a lower pressure so that today the cost of gathering gas and delivering it at 300 lbs. pressure is substantially greater than it would have been had there been a reasonable conservation in past years. The Board undoubtedly will give consideration to the fact that the gas has to be gathered from many wells,





Ralph E. Davis,  
Dir.Exam.by Mr. Stoer.

- 5422 -

each producing a small quantity of gas, and that this gas is sour gas and therefore substantially less valuable than sweet gas would be under conditions otherwise similar.

The Canadian Western Company and the Royalite Oil Company have been marketing gas from Turner Valley for more than 20 years, and at the time of the passage of the Act there was in existence a contract providing for the sale of gas between these parties at  $7\frac{3}{4}\phi$  for gas that had been scrubbed, delivered at up to 300 lb. pressure, if such pressure be needed, and measured on a 14 lb. pressure base.

For many years past I have been familiar with this contract and the conditions under which the gas has been produced and delivered. I consider  $7\frac{3}{4}\phi$  a fair and reasonable price for Canadian Western to pay for that gas.

I might say that if that gas was being delivered at 16-7/10 lbs, instead of 14, the comparable price would be  $9\frac{1}{4}\phi$  instead of  $7\frac{3}{4}\phi$ , and if you had 16-4/10 lbs., your pressure base, the price would be 9-7/100¢.

If somebody is required to share a market that they formerly enjoyed alone, that fact in itself should not require an increase in price. If oil field gas that has been wasted for 10 years cannot be wasted in the future, it would seem to me that is a matter for the oil well owner to handle, just as the oil well owner is required to handle it in every one of the States where state authority compels conservation.

In 1938 the Royalite Company adopted voluntarily a program of conservation. The Company, which is the owner of much the largest quantity of gas in the field, made an offer to the proprietors of wells producing gas that when connected up with the Royalite line the residue gas after processing would be used by the Royalite Company for the purpose of





Ralph E. Davis,  
Dir. Exam. by Mr. Stocr.

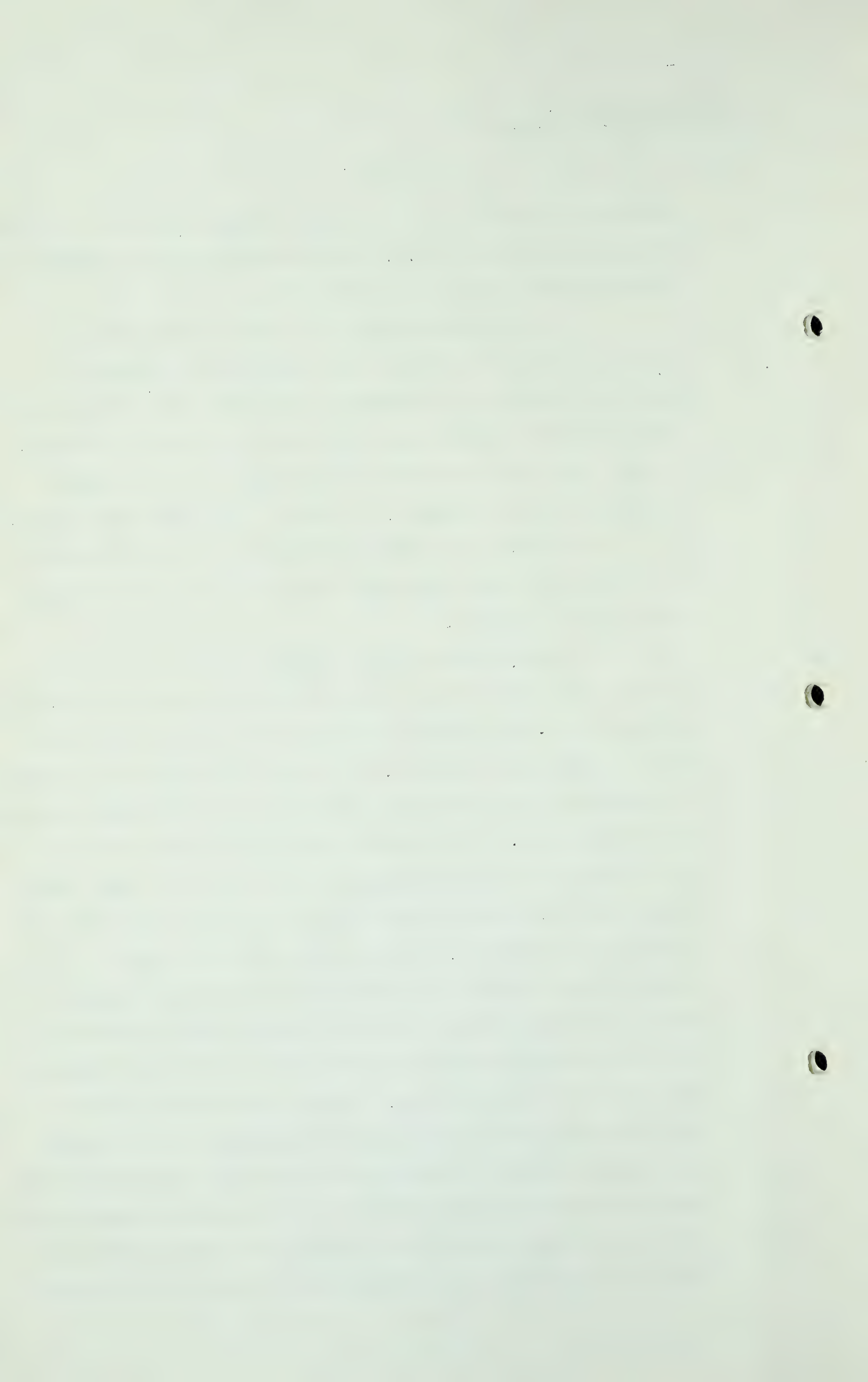
- 5423 -

supplying it to the Canadian Western Company and the producer would be paid 2¢ per M.C.F. for such residue gas so supplied. I consider that price to be reasonable.

It has been pointed out to the Board that the producing end of the natural gas business is considered a hazardous business. In general I agree with that because the producer in most cases must find his gas and drill to obtain a supply and it is uncertain at the outset to what extent dry holes will be drilled, or wells of small capacity result.

In the case before the Board we are dealing with a different problem. One cannot say that it is hazardous to sell a waste product.

In the matter of who should pay for putting gas back into the reservoir, it would seem to me that the principle stated by Mr. Tom Weymouth was fair, that the cost should be borne by those who benefit. It is common knowledge that great strides have been made in the last few years in finding new uses for natural gas. Who can say that within a very few years there will not be an endeavour to use natural gas from Turner Valley for some chemical use? Who can say that the price of carbon black will not, within a year or two or three, be so adjusted that it will be profitable to manufacture carbon black from Turner Valley gas? The carbon black industry has been selling carbon black at prices regarded by all familiar with the matter as very low. These prices have recently been adjusted substantially upward from  $3\frac{1}{2}$ ¢ to 5¢ per pound for channel black, and based upon my own long familiarity with the carbon black industry, I believe that within a comparatively short time carbon black will be selling at a price that will make it profitable to use Turner Valley gas for that purpose.



Ralph E. Davis,  
Dir.Exam. by Mr.Steer.

- 5424 -

In any case, if we are to follow a principle that he who enjoys the benefit should pay for putting gas back into the ground, it is difficult to be positive that any part of that benefit will accrue to the consumers of the Canadian Western Natural Gas Company system.

I have given consideration to the problem of the proper allocation of costs as between the Natural Gas and natural Gasoline businesses. So far as the British American absorption plant is concerned the capital of the proprietor was committed to that plant and its gathering lines before the present scheme was proposed. There seems to be no good reason why the effect of the scheme should be to relieve the B.A. Company of the costs to which it had already been committed to any extent, let alone to the extent of 90% of such costs as proposed by the Company.

So far as the low pressure system is concerned, I have examined the evidence and the evidence of the officials of the Company and it indicates the effect of the installation of the low pressure system is to extend the life of the absorption plant by at least 7 years, giving it a life of  $2\frac{1}{2}$  times the 3-year life which it could anticipate at the inception of the scheme. In my view this fact must be given great weight in determining the proportions in which the cost of this low pressure system has to be borne as between the absorption plant and the natural gas business of the B.A. Company.

Similar considerations apply to the Royalite absorption plant and to Madison's gas system, but there is present the complicating factor that the evidence indicates that some at least of the company's expenditure was for the purpose of insuring continuity of supply of gas to the Canadian Western





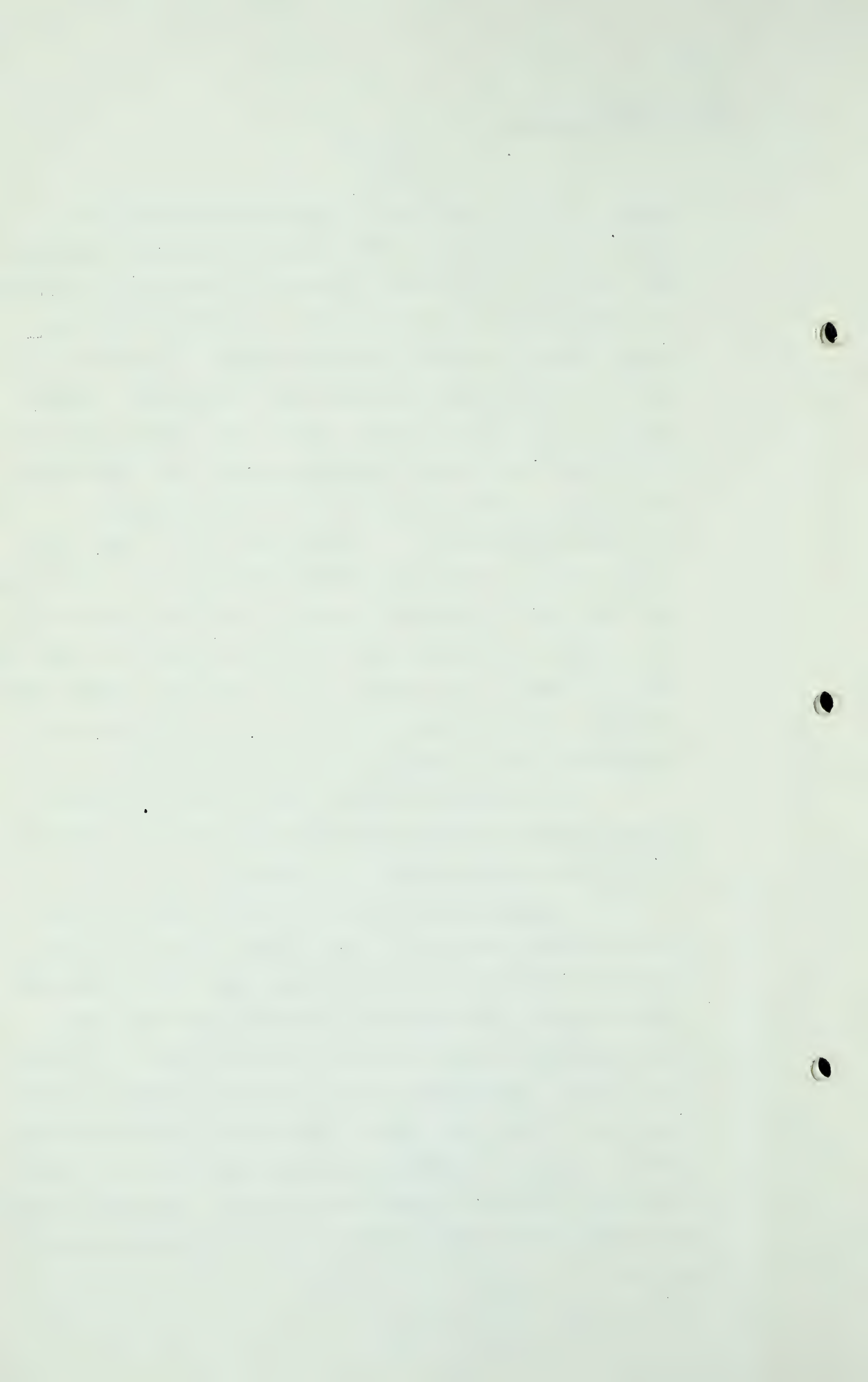
Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5425 -

system. Were this evidence to stand alone it might be a little more difficult to deal with than it is when considered along side the fact (a) that there was a flare at the Royalite No. 1 plant until 1938 and (b) that in 1936 the Royalite Company created its No. 2 absorption plant in Turner Valley, which had no connection whatever with the Canadian Western supply of gas. It is assumed and to some extent supported by evidence that the No. 2 absorption plant was a profitable undertaking from the point of view of natural gasoline. Under those circumstances it would seem to be at least fair, if not generous, to the proprietor of the Royalite absorption plant to regard the natural gas which enters the plant as the raw material of that plant and to divide the costs in accordance with the volume of gas required by the absorption plant, namely 100 parts, and the volume of the gas actually delivered to the Canadian Western Company, namely about 90 parts.

When making a similar division with respect to the B.A. absorption plant the proportions should be considerably more in favour of the natural gas business.

Summarizing my thoughts, I see no justification for a revision, either up or down, of the price of  $7\frac{3}{4}\phi$  per M.C.F. for the gas purchased in Turner Valley by the Canadian Western Company. Nor do I see a justification for paying more than  $2\phi$  per M.C.F. for Turner Valley raw gas at the well-head. In my opinion the gas cap gas should command a higher price than the oil well gas. Gas returned to the reservoir should in my view be valued at less than  $\frac{1}{2}\phi$  per M.C.F. at the well-head, and then be owned by the operator purchasing it and conserving it, and enjoying the benefit of eventually marketing it.





M-2-1 - 10.35 A.M.

Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5426 -

The suggested prices for the well-head gas, are for gas measured at 14 lbs. absolute, and of course for sour gas. When the prices are compared to the prices paid in certain Texas fields hereinabove discussed, and allowance made for the difference in pressure base and for the fact that the gas is sour, there is little difference between the two.

We should not lose sight of the fact that the oil field gas pushes the oil to the well bore and then lifts the oil to the surface. It supplies the raw material for the production of naphtha and gasoline. A part of the gas furnishes fuel for plant and field operations. It is no wonder that in most oil fields the operators have considered the gas as having served its main usefulness. It is properly regarded as a waste product after having rendered its principal service.

Q MR. STEER: Mr. Davis, will you please refer to Page 8, and let us have your comments on those prices of five cents, six cents and seven cents for three successive periods of five years each ?

A Yes sir.

In the theatre they call the preamble the prelude, a prologue.

Q In the first main paragraph on that page you say Tennessee Gas & Transmission Company pays five cents during the first five years, six cents for the second five years and seven cents for the third five years.

A All right, as a prelude to the discussion of those figures let me say at this time United Gas Pipe Line Company purchases gas in the Panola County, Texas field, and offers five cents to those who contract to sell gas at that price for ten years. Should he who wishes to sell gas for a limited period and



Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5427 -

anything under five years is offered at four cents, the same gas, same conditions, but the Company is willing to pay more for an assurance of long supply.

Now when Tennessee or the Michigan - Wisconsin Company have made these contracts in the Tennessee gas at five cents for the first five years, six cents for the second five and seven cents for the third five years, it is somewhat equivalent to say fifteen years we will give you six cents, but it is a little more favourable to Tennessee than just that because for the first five years they pay less than the average. They can buy gas currently in the field for five cents or less but they are willing to contract for a long term and on a rising scale to assure themselves of a long term supply of gas and that enables them to go to the market end of their business and enter into contracts to sell gas for a long term.

Q I am showing you Schedule 3-A which is filed here as part of Exhibit 126.

MR. HARVIE: I presume this has been marked as an Exhibit.

MR. STEER: Perhaps we should have it marked now.

THE CHAIRMAN: That will be Exhibit 148.

STATEMENT RELATING TO CONSERVATION  
OF VALUE OF GAS - TURNER VALLEY FIELD  
BY MR. RALPH E. DAVIS, NOW MARKED AS  
EXHIBIT 148.

Q MR. STEER: Now that document, Mr. Davis, is headed, Field Prices. Perhaps you will read the heading on it.

A This is Schedule No. 3-A.

Q Yes.

A And it is headed, Field Prices for Natural Gas paid by Selected Pipe Line Companies in U. S. 1943.





Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5428 -

Q And are you familiar with the operations of those Companies that are listed there ?

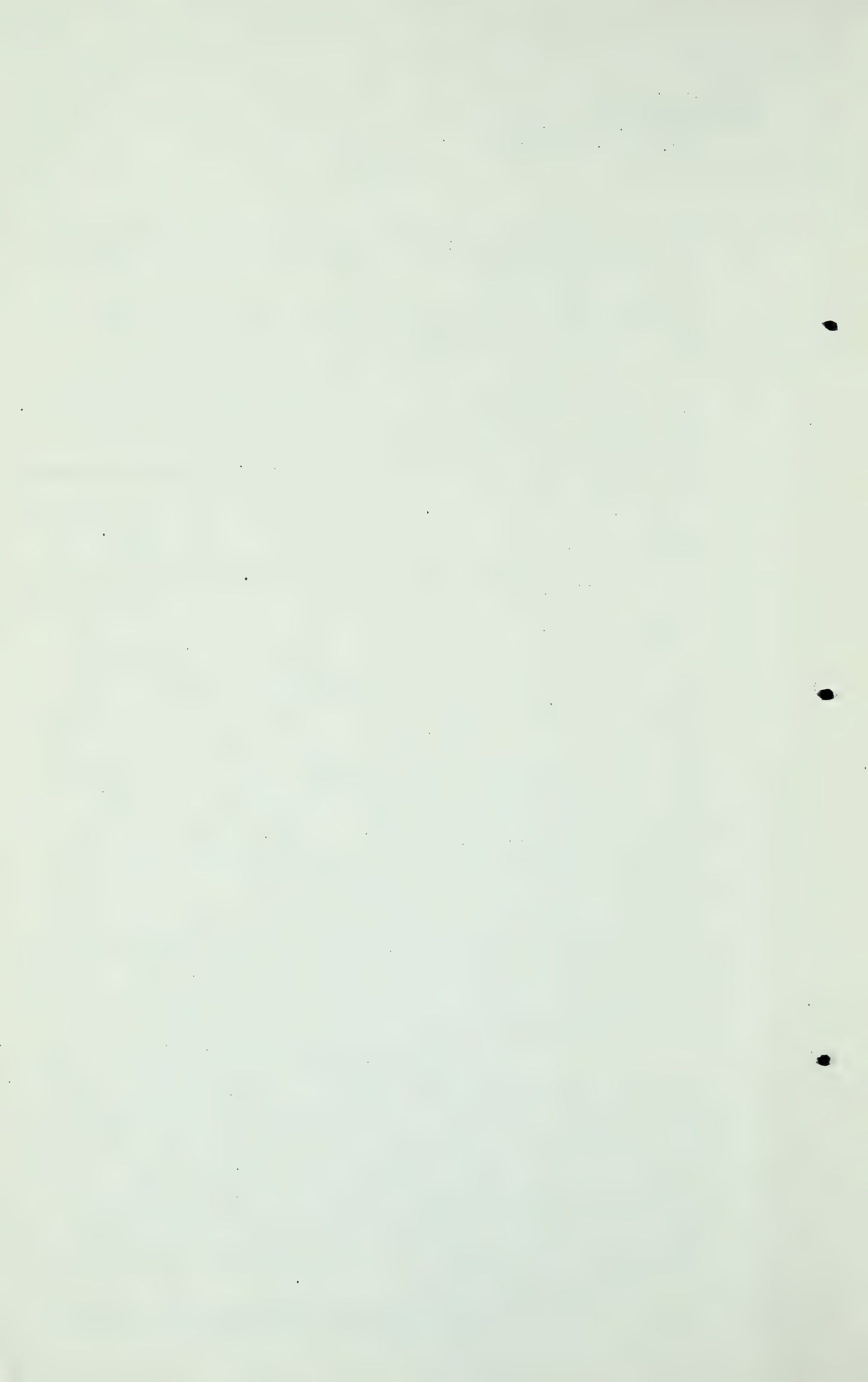
A I am familiar with the operations of every one of them.

Q What do you say as to those being field prices ?

A Well let us examine and see. The first Company is Northern Gas Company. Northern Natural Gas Company buys 10 billion feet of gas each year from the R. A. Phillips Petroleum Company at a central point. Gas that has been gathered, put through a gasoline plant and delivered at a central point. That is 10 billion, about eighty billion feet. The Northern Natural Gas Company, well I was thinking of their total gas market here in 1943, I see it is 59 8/10ths billion. That is gas purchased, the remainder being gas produced themselves. This schedule extends 5 2/100ths as an average price. 60 billion feet includes all gas they have purchased. It includes gas they have purchased after having been gathered, not only in the Phillips case but in others. I was employed some years ago by the Northern Natural Gas Company to advise them with regard to their problem of gas supply and it was as a result of that study that contracts were made covering their principal purchases and I would say that substantially less than half of the purchases is made at what you can call well head price.

Panhandle Eastern Pipeline Company. They buy gas in both the Hugoton field, and Amarilla field. Conditions generally the same as those pertaining with Northern Natural Gas in the Hugoton field. I presume that 90%, certainly a very very major portion of the gas purchased in that field is gathered by the selling company and delivered at a single delivery point.

Natural Gas Pipeline Company of America.





Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5429 -

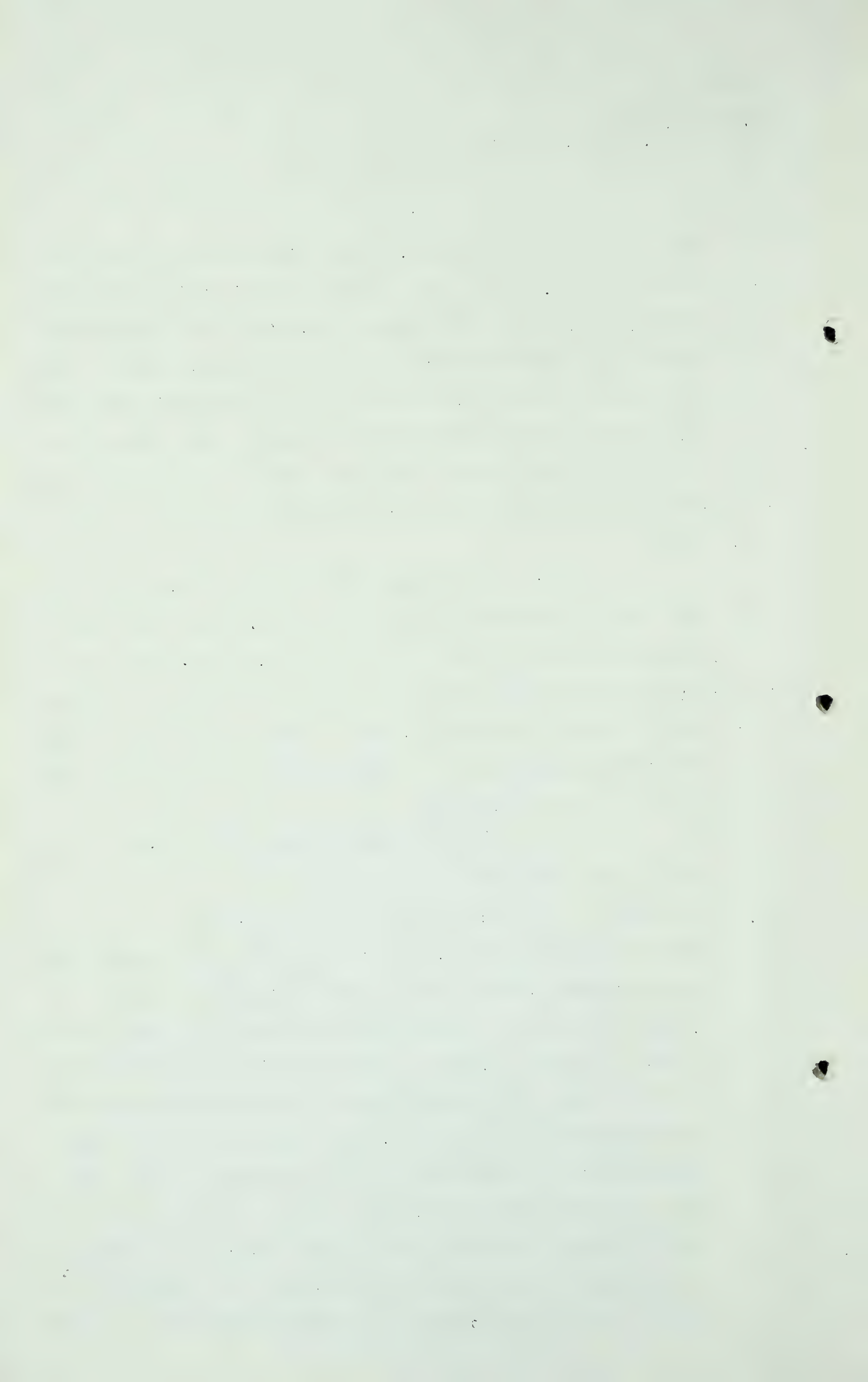
Does not buy any gas in the field. Their pipe line does not even go to the field. The gas is gathered and piped in pipes of large diameter by two selling companies. One, the Texoma Natural Gas Company furnished 75% of the supply and the other The Canadian River Gas furnishes 25% of the supply and in the case of the Canadian River some of the gas comes from wells that are at least distant 100 miles from the place where they deliver the gas, so certainly you cannot call that a field price.

Mississippi River Fuel Corporation. We have gone to the Mississippi field in Louisiana. Pipe line extends from that field to the environs of St. Louis. Gas is accepted by Mississippi River Fuel Corporation at a single station in the Mississippi Valley. The sellers bring the gas to the Mississippi but to a single point and they do not buy a foot of gas at any well.

That covers the first four Companies. Do you want the other five ?

Q MR. STEER: Well just deal with them all.

A Interstate Natural Gas Company. Their pipe line extends from the Mississippi south-east to Baton Rouge and on to New Orleans. They are a large producing company and they are also a large purchasing company. They produce gas in the Mississippi field where they gather the gas and they purchase gas in the Mississippi field and elsewhere. Some of the gas they purchase in the Mississippi field is purchased at the wells along their own gathering system. They buy gas, some of that gas is purchased from the United Carbon Company, the Columbian Carbon Company, gas that has been produced and gathered by the selling company and produced and made delivery of at a single



Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5430 -

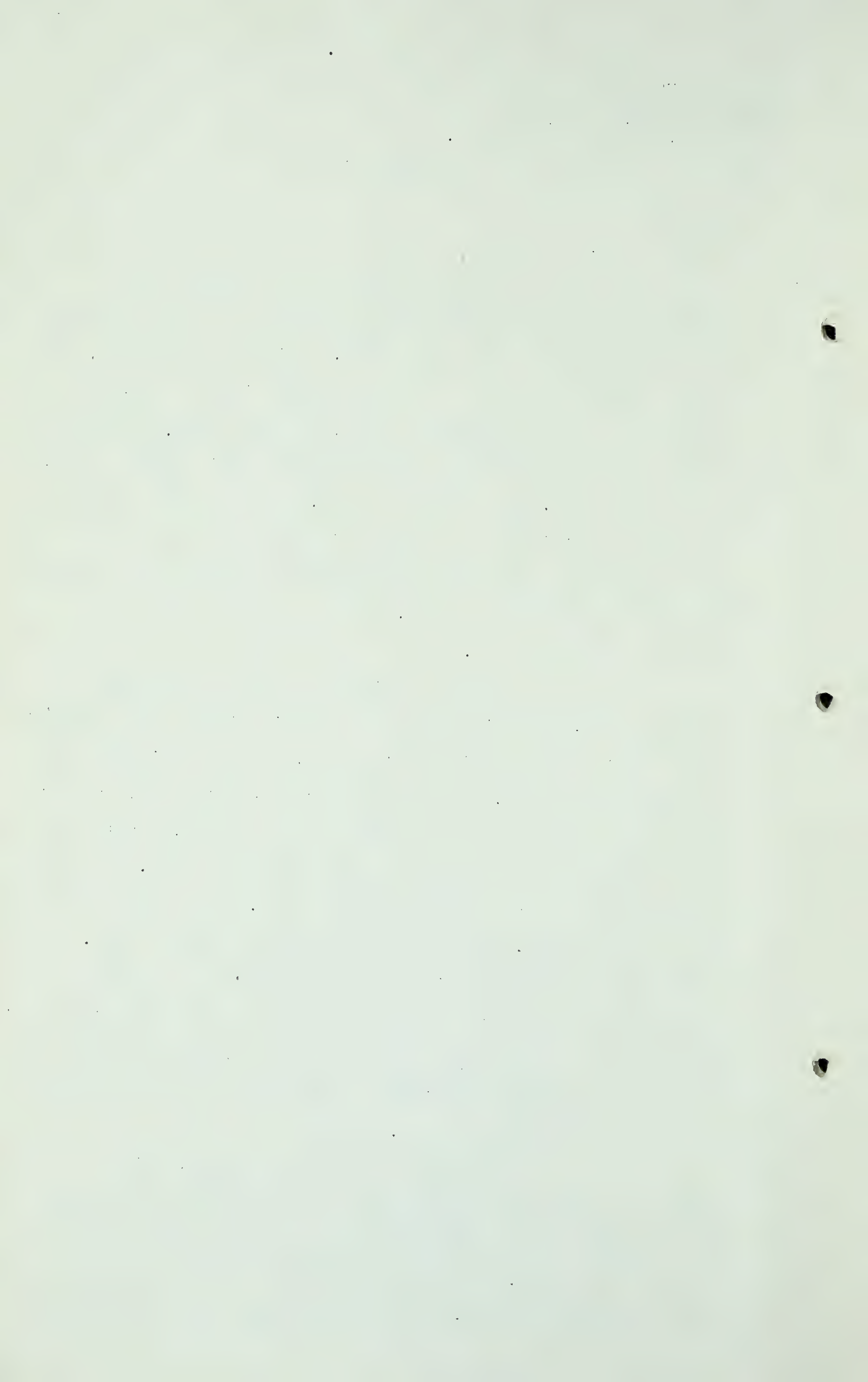
place.

Southern Natural Gas Company. The Southern Natural Gas Company in the Monroe field does not buy any gas whatever at the well. This statement indicates a purchase of sixty-nine and a fraction billion feet. I know of course that gas is purchased, only part comes from the Monroe field and part of that gas is produced in other fields. But let it go. It does not matter. A large part of that gas is gas that is gathered and delivered to Southern Natural and some of that gas is delivered to Southern Natural clear across the state in Louisiana. Delivery being made by United Gas Pipeline Company.

Now in the Kansas, Texas and Oklahoma fields. The first named company is Cities Service Gas Company. Sixty-three billion feet of gas. Five and nine one hundredths cents in 1943. Fifty-eight and six-tenths billion feet of gas at five and fifty-three hundredths in 1944. That is about one half of the total gas handled by that company. The other half being produced from their own wells. This gas is produced in many fields. Some of it is purchased at the wells. Some of it is purchased while at gasoline plants where the gas has been gathered by the operator and how much or what percentage is purchased at wells from gasoline plants I would not say offhand, but a substantial part is purchased at gasoline plants gathered by the seller.

Lone Star Gas Company. Eighty-three billion feet in 1944 at five and eleven one-hundredths cents. Lone Star Gas Company purchases its gas at wells and at gasoline plants. A recent contract made<sup>is</sup> illustrative of their larger purchases. They contracted with Roger Lacey, who is one





Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5431 -

of the large operators in Carthage and Panola County, Texas. They have contracted to take from Lacey during the first three years, not less than fifteen billion feet a year at a price of five and a quarter cents, gas carried at 16.4 pounds, gas delivered after going through gasoline plants, delivery price not to be less than one thousand pounds, that is the Lone Star Gas Company.

Q Is that gas sweet ?

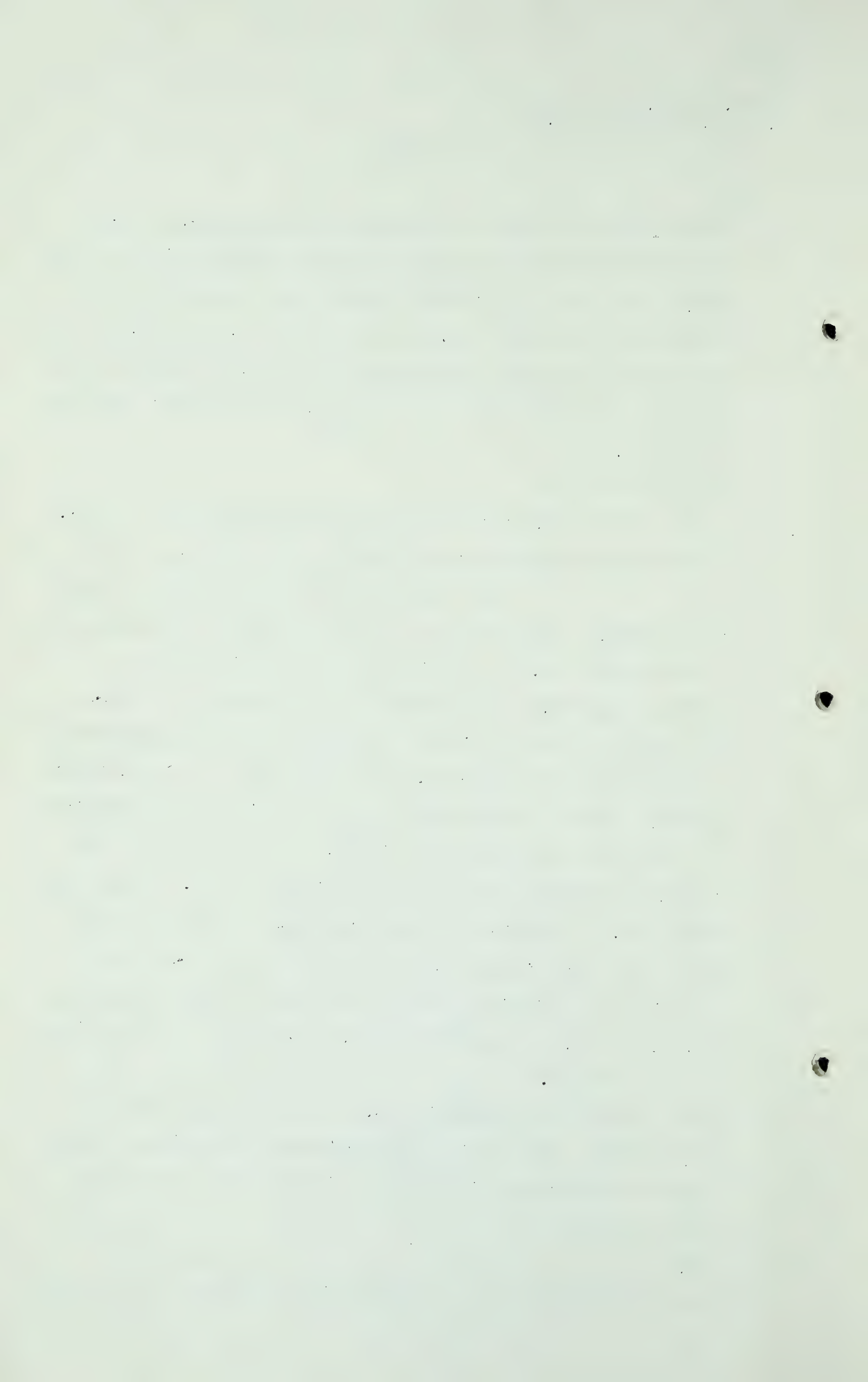
A That gas is sweet, every foot of gas in this table is sweet. These people cannot do with anything but sweet gas.

The last Company is the United Gas Pipeline Company. Purchased in 1944 three hundred and forty-seven billion cubic feet. A few minutes ago I mentioned three hundred and forty. That Company does not produce any gas. They buy gas from an affiliate company and they buy gas from a great many other producers. The last time I reviewed their picture, about two years ago, they were buying gas, producing or buying gas in eighty-three fields. At least eighty-three fields. There were ten or fifteen little fields. I did not count them. They did not amount to much. I counted eighty-three that were sizable enough to make a study of. Now when the United Gas Pipeline Company buys gas it buys it in every way. At wells, at gasoline plants, etc. Some of it you might say is field gas.

Q Now I am showing you Exhibit No. 5 to this Exhibit 126 and that schedule shows or is intended to make comparison between Calgary and certain United States cities as to the cost of gas to the consumer ?

A Yes.

Q And it is apparent from a study of it that there are how many





Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5432 -

cities in that list where the price of gas is lower than it is in Calgary.

A If you are dealing with delivery of not over twenty-five hundred cubic feet of gas per month, there are four. Wait a minute. You say where the price is less than Calgary ?

Q Yes.

A We have Huntington, Shreveport and Wheeling. There are four with less. If you are dealing with ten thousand cubic feet of gas per month or as stated one hundred therms per month, I find Huntington, Amarillo, Charleston and Jackson.

Q Now let us look at those four places, Mr. Davis. You say Huntington, Amarillo, Charleston and Jackson. Is that right ?

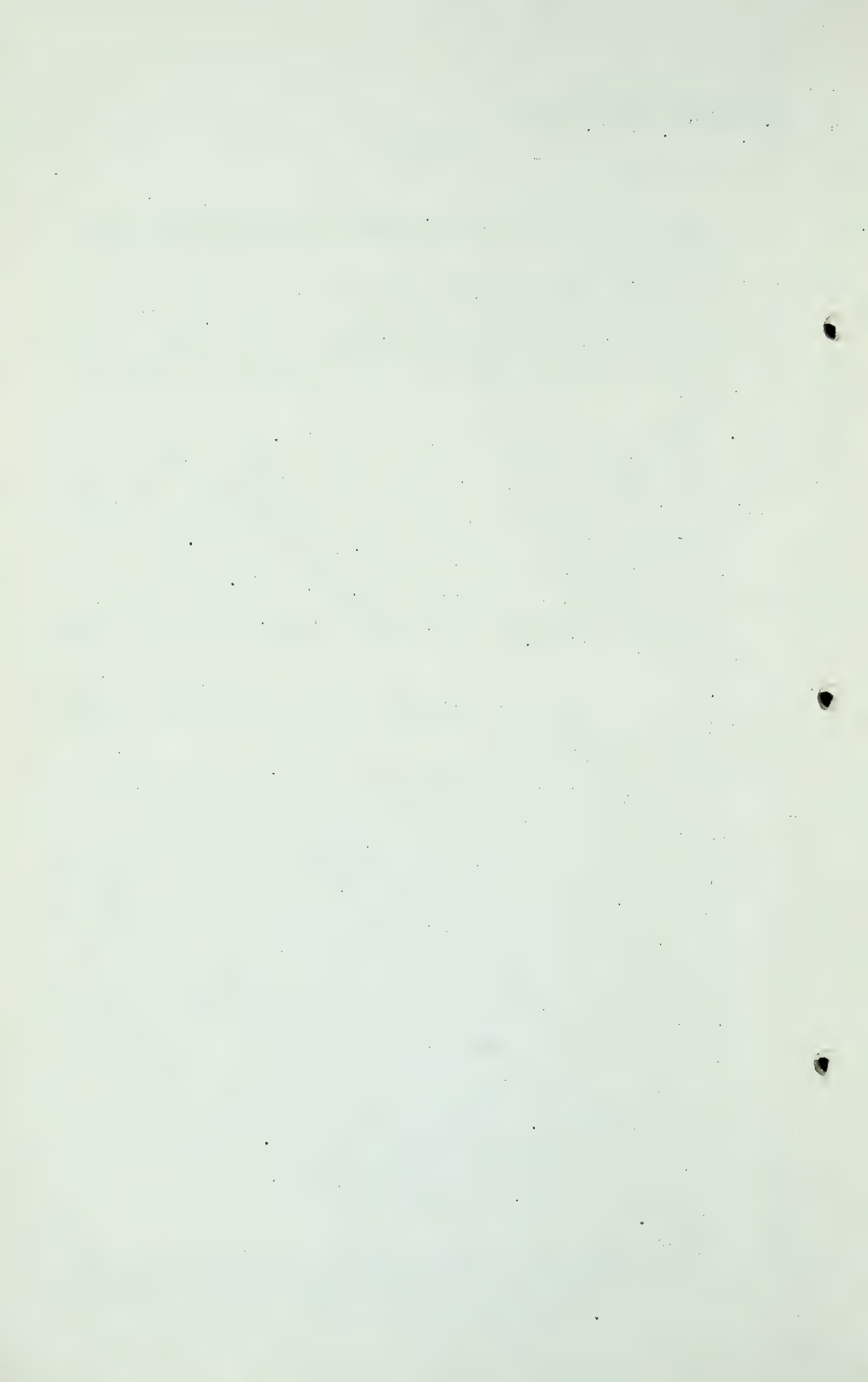
A Yes.

Q Will you discuss the situation of those places with respect to the gas supplies ?

A Well take them in the order you named them. Huntington is a city in West Virginia and for a great many years has been served by two companies, the Huntington Fuel and Gas Company, and the United Fuel and Gas Company. Each of these companies have lines in the city serving their respective customers and there has been a long long competitive situation between the two and ending finally with the United Fuel Company acquiring the Huntington Gas Company, but being unable up to 1944 to consolidate the business and they operate as a subsidiary and a parent company. I think at the back there was a long competitive situation right within the city. It came about as low price for gas. Now the second city.

Q Amarillo ?

A Amarillo is situated south of the west end of the Amarillo Gas field. That gas field is regarded as the largest gas



M-2-8

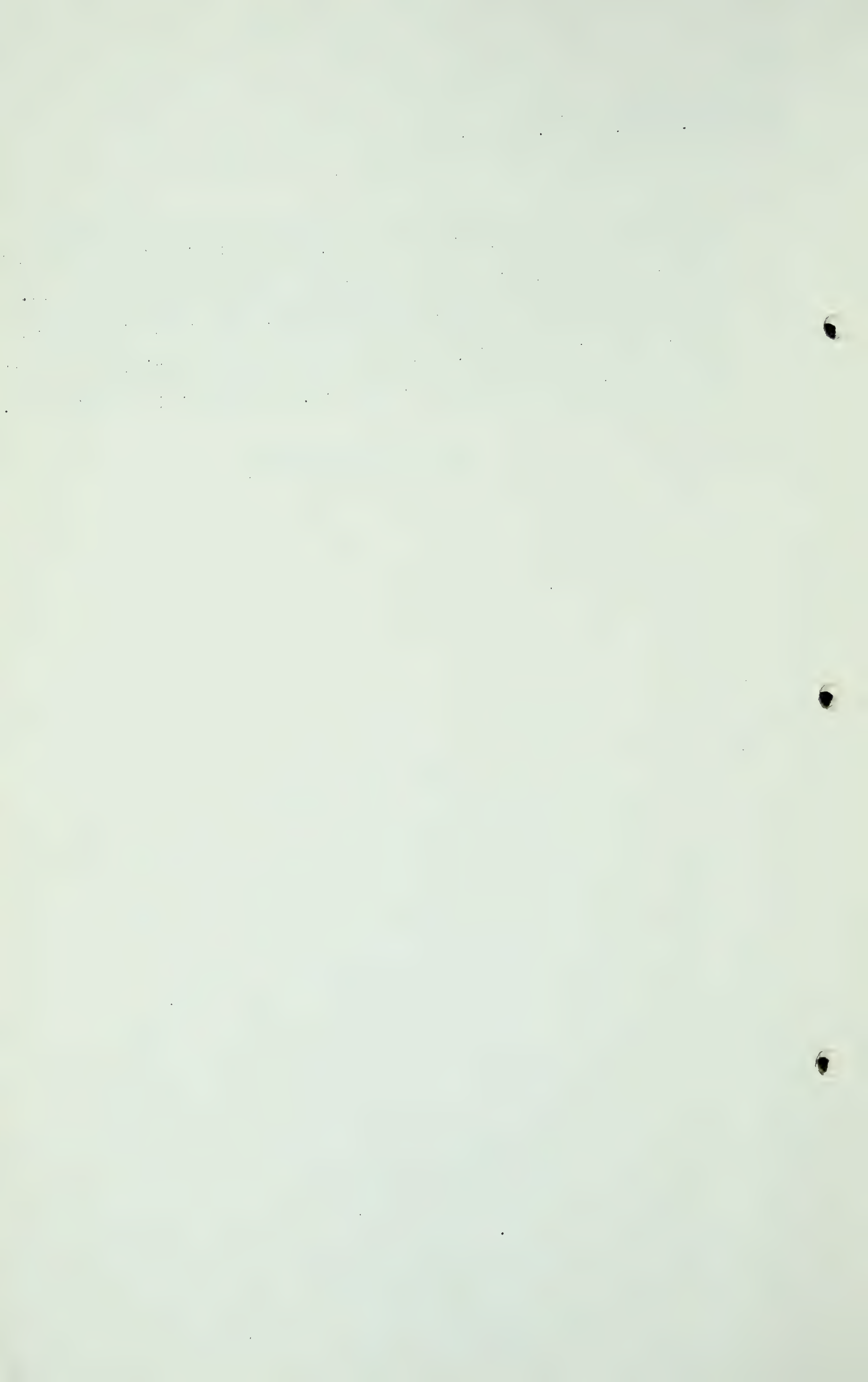
Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5433 -

reserve ever found in the world. Amarillo is situated I think about fifteen miles south of the south border of the field. I have been there many times and have driven that highway and up in the field gas is, well gas was piped to Amarillo before they ever piped it to any distant city. The Amarillo Gas Company.

( Go to Page 5434 )





T-2-1 10.55 a.m.

Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

- 5434 -

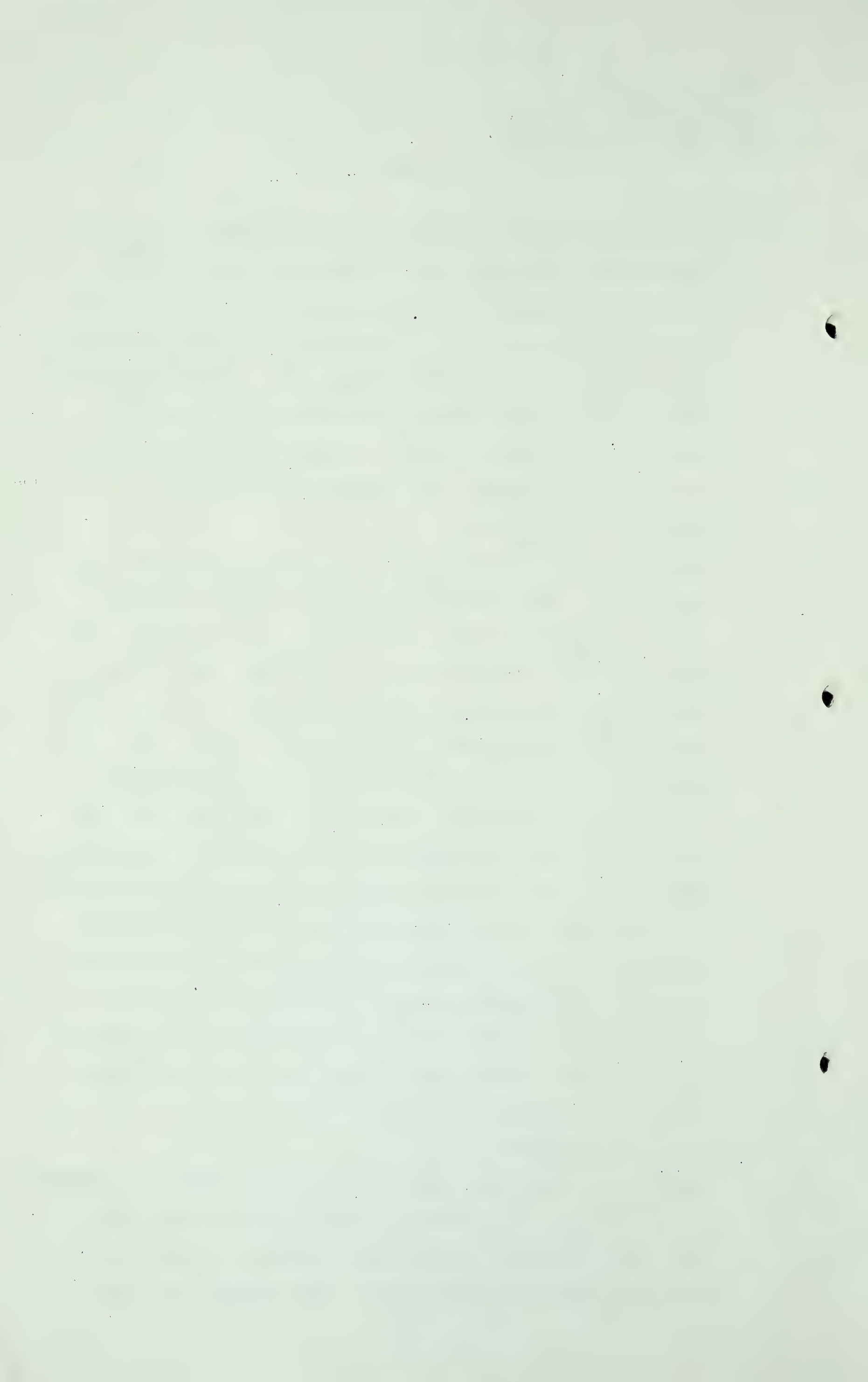
They had gas available from wells of a hundred million and fifty million feet per well. I would say that the gas supply available for the Amarillo service - well they have had service for more than 20 years and are going to have it in my judgment for more than another 100. In any case, they get all the gas they need for the whole town, a town of 50,000 out of very few wells. It does not cost very much to render that service. The price ought to be low.

Q What about Charleston?

A Charleston, West Virginia. It is served by the United Fuel Gas Company. The United Fuel is one of the two largest natural gas companies in West Virginia and a good deal of the gas handled by that company, more than half of it is sold in the wholesale export business; that is the gas goes across the line into Ohio. The business at Charleston, and there are other distribution businesses in West Virginia, in certain other smaller cities have, the rates have been fixed and reviewed by Commissions and revised by Commissions, where it has been necessary to allocate certain investments as between how much is invested to be used in the city of Charleston and how much for everything else. I have been in some of these rate cases and I think that the city of Charleston has not been given the worst of it. At any rate the price is a little less in Charleston, not much. That is all I can tell you about it.

Q What about Jackson?

A Jackson, Mississippi. Jackson, Mississippi had a gas service, artificial or manufactured gas service until about 1930, then somebody drilled a well and brought in a gas field in Jackson, inside the city limits. The Jackson gas field,





Ralph E. Davis,  
Dir. Exam. by Mr. Steer.

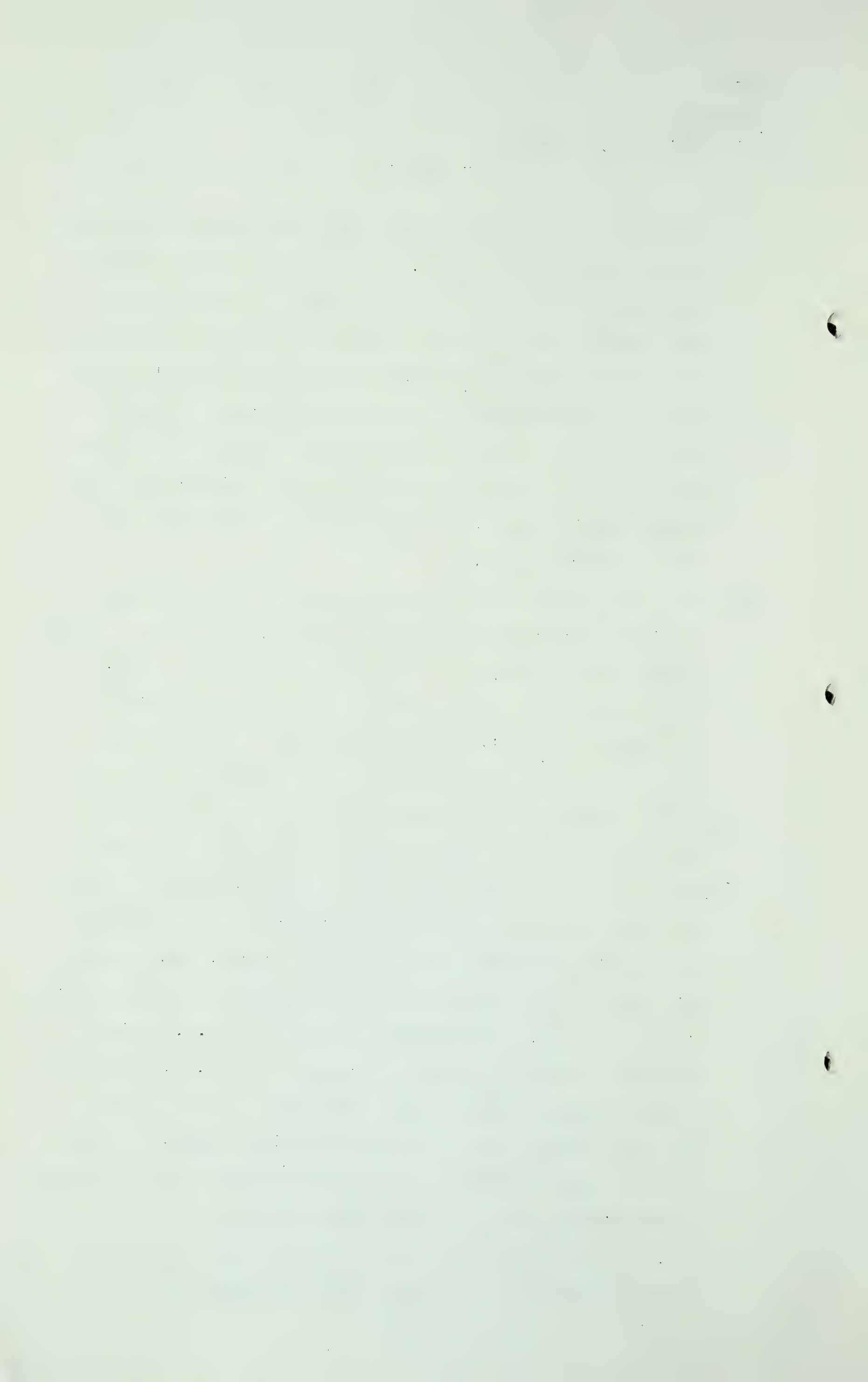
- 5435 -

most of it is within the city limits and that is when they changed over to natural gas. Now listen. That condition continued to be fundamental there until oh for 10 years when the gas supply began to peter out and then a pipeline was extended from the Southern Natural Gas Company's lines and more recently another line so that Jackson today is getting gas, only part of it from the Jackson field but the rates are in litigation because the city claims that they ought to sell gas at the old rate even if they bring it from the Monroe field.

Q Will you look at page 9 of that exhibit, Mr. Davis, and you will see a reference there to the figures of the Bureau of Mines being referred to as similar to a field price.

A Well it says that the publication of such data, that is the Bureau of Mines' Year Book, in which they give the average price in different states of natural gas produced in the previous year. By the time this publication is in your hands, it means the second previous year. In other words it is historical data and here the statement is made that the publication of such data, "which in some respects is equivalent to the posting of field prices." Now a field price is a price posted by an oil company at a given hour and minute of a day, beginning we will say at 7 A.M. on the 20th of February the posted price will be \$1.35. That is a price dealing with futures. That price remains until the next posted price is supposed to give effect. To me, one, the posted price has to do with business and the Bureau of Mines' Year Book has to do with history.

Q You, as I understand from your evidence, have taken part in the negotiation of a large number of large contracts



Ralph E. Davis,  
Dir. Exam. by Mr. Steer.  
Cross-Exam. by Mr. Chambers.

- 5436 -

for gas supplies.

A I have, yes.

Q Have you ever known, in the course of those negotiations, any reference to these figures published by the Bureau of Mines?

A I surely have not.

Q That is all.

THE CHAIRMAN: We will adjourn for ten minutes.

(At this stage there was a short adjournment taken.)

.....

CROSS-EXAMINATION BY MR. CHAMBERS.

Q Mr. Davis, how long have you been consultant for the Gas Company?

A My first study of this Gas Company picture, including Turner Valley, was made in either the winter of 1924-5 or the following winter. It was at the time that the change in ownership came about. I was sent out here by the New York people who acquired these properties. At that time, I studied the gas reserves end of the problem.

Q Yes, and . . . . .

A And let me continue my answer.

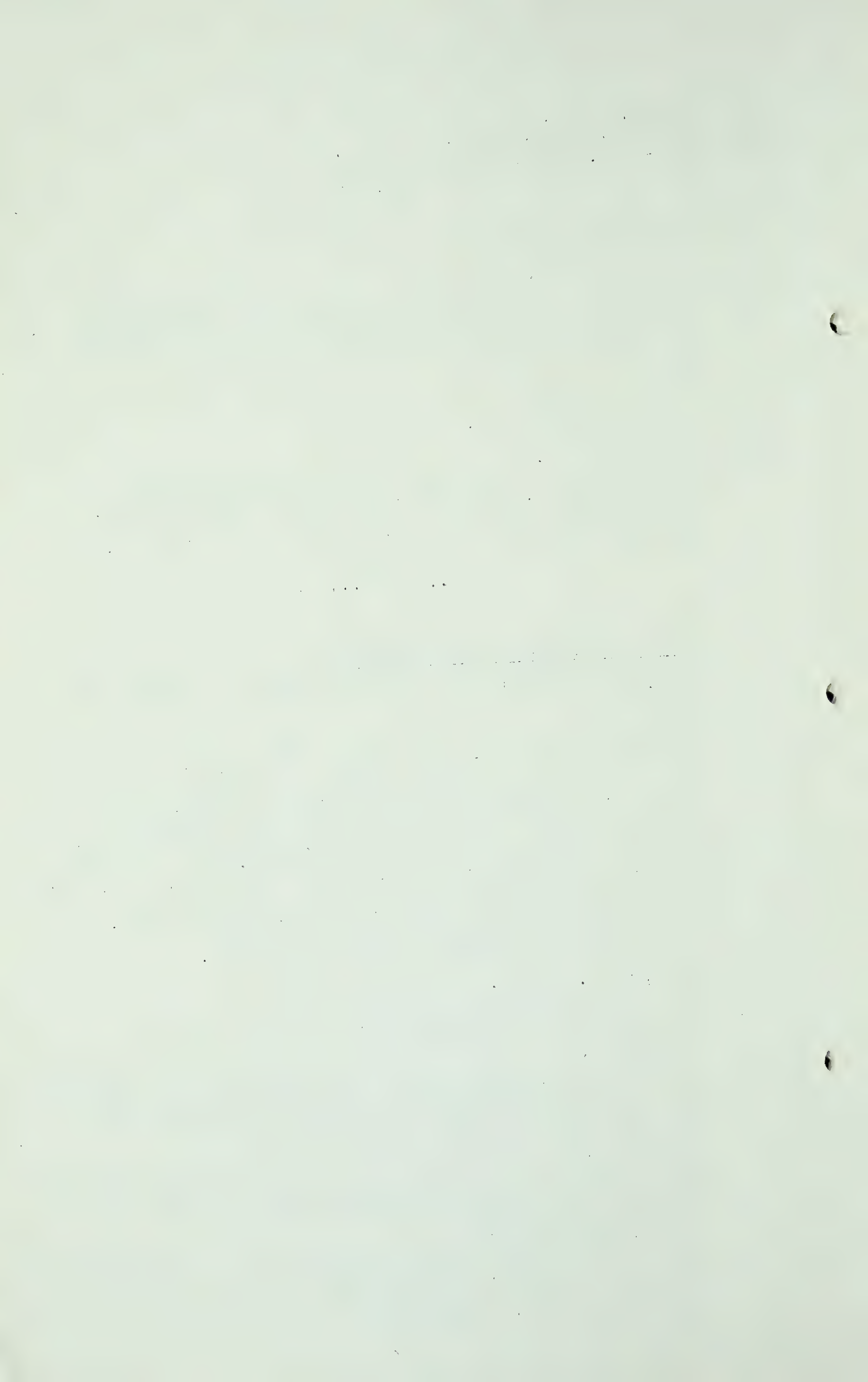
Q Pardon me.

A From time to time thereafter I was employed by the Canadian Western Company on matters, usually matters relating to gas supplies.

Q You were here in the 1926 Hearing before the Public Utility Board, were you not?

A I doubt that I was. I do not recall that. I was here at the 1931 Hearing. I do not recall being here in 1926. I





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5437 -

am pretty sure I was not here.

Q You were here prior to 1926?

A I made studies in the period I speak of, December of either 1924 or 1925.

Q You have been the consultant of that company in these gas matters since 1924.

A Not as a continuing retainer relationship.

Q No.

A As occasion arises.

Q As occasion arises.

A Periodically when occasion has arisen and always with relation to some particular phase of the business.

Q Now turning to your submission, Exhibit 148 in the first sentence of your Report, you have given the Board and the rest of us the benefit of your opinion as to what was the main purpose of the Legislature in passing this Natural Gas Utilities' Act, that is right is it not?

A I would say so.

Q You base that opinion, as I understand it, first on having read the Act itself and secondly, your familiarity with the Turner Valley field and its history, is that a fair way of putting it?

A Those two matters and also I have noted that the Board gave its first attention to the matter of conserving gas.

Q I know, but that was something after the Act was passed.

A You are right about that. I think the Board, in studying the act, deemed it its duty to deal with first matters first.

Q The Act told the Board to do, or directed the Board to exercise certain powers.

A Yes. And the Board has done certain things and one of them





T-2-5

Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5438 -

is they gave their first attention to the matter of conserving gas.

Q Was it not the Conservation Board that did that?

A The Conservation Board had done that but . . . . .

Q Just what do you refer to that this Board has done?

A Well which Board are we talking about?

Q This is The Natural Gas Utilities Board.

A Maybe I am mistaken. Which Board ordered certain pipelines installed?

Q Yes.

A Which Board did?

Q This Board directed certain pipelines to be built.

A That is what I am referring to.

Q As I understand it from what you said in your Report, it is from these things, that is the reading of the Act and what it directs in it and your familiarity with the Turner Valley field and its history, you have concluded and given it as your opinion that the main purpose of the Legislature was (a) to require this natural gas at Turner Valley to be brought under control and (b) to require the dividing of the market among all gas producers in the field. Is that not in effect what you say?

A That is right. If I am mistaken it is all right. That is what I think.

Q You then state on the first page of Exhibit 148 that of these two purposes that we have just mentioned you are of the opinion that the matter uppermost in the mind of the Legislature was that of conservation. That is right is it not?

A That is my opinion.



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5439 -

Q I just want to get clear what you have said or the effect of it.

A Yes.

Q And then on that same page 1 of Exhibit 148, you state that "Conservation as I see it is the most important matter causing the Legislature to take action." That is the opinion you hold?

A That is right.

Q Is that right?

A Yes.

MR. STEER: The word "most" is not used.

A Well I am going to put it in.

Q That is all right, but my friend was purporting to read.

Q MR. CHAMBERS: I am sorry. "Conservation as I see it is the important matter causing the Legislature to take action." I am sorry.

A That is right.

Q And then on page 4 the first double spaced paragraph, you state: "The problem of conservation is the principal problem in Turner Valley and before this Board."

A On my page 4?

Q On page 4. The first double spaced paragraph right at the end. "The problem of conservation, which is the principal problem in Turner Valley and before this Board." Do you see that to which I am referring?

A I am not looking at the right place.

Q MR. STEER: You are looking at the single space instead of the double space.

A Yes, I say it is the principal problem in Turner Valley and before this Board.





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5440 -

Q MR. CHAMBERS: And before this Board?

A Yes, sir.

Q Now am I right in this, Mr. Davis, that the conclusions and recommendations which then follow your Report, Exhibit 148, are predicated on or influenced by that main purpose of the Legislature, namely to require natural gas wastage in Turner Valley to be brought under control.

A I do not know to what extent in reviewing and thinking of the problem the conclusion reached is influenced by that preliminary conclusion. I do not know to what extent it had weight. I would be willing to agree that it had some weight. I do not know how much.

Q Well it must have been relevant to the conclusions you were going to make or you would not have put it in.

A I think that is so.

Q Well would you agree with this, Mr. Davis, that the Board should carry out the terms of the Act, irrespective of any opinion of yours or anybody else, as to what motive the Legislature had?

A I think so. I think they have a duty and should carry out that duty as their judgment dictates.

Q I know, but as I understand it you are suggesting that in forming this judgment the Board should take into consideration the motive of the Legislature, is that not right?

A I am suggesting to the Board the thoughts I have expressed are matters of importance that might well be taken into consideration. I certainly do not suggest to the Board that they should violate the mandate given them in this Act.

Q Irrespective of the motive of the Legislature?



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5441 -

A     Whatever the Act means. I think I have brought out the point that the Legislature had an objective, for this reason that it is sometimes urged in our own Courts in the States that it was the intent of Congress to do so and so. They go back to what was the intent of Congress. Here, I have thought it well to go back to the intent of this Legislature.

Q     Now, Mr. Davis, in that regard would you agree with this statement that it is never a very safe ground in the construction of a statute to give weight to the views of its policies... . . . .

A     To the views of its what?

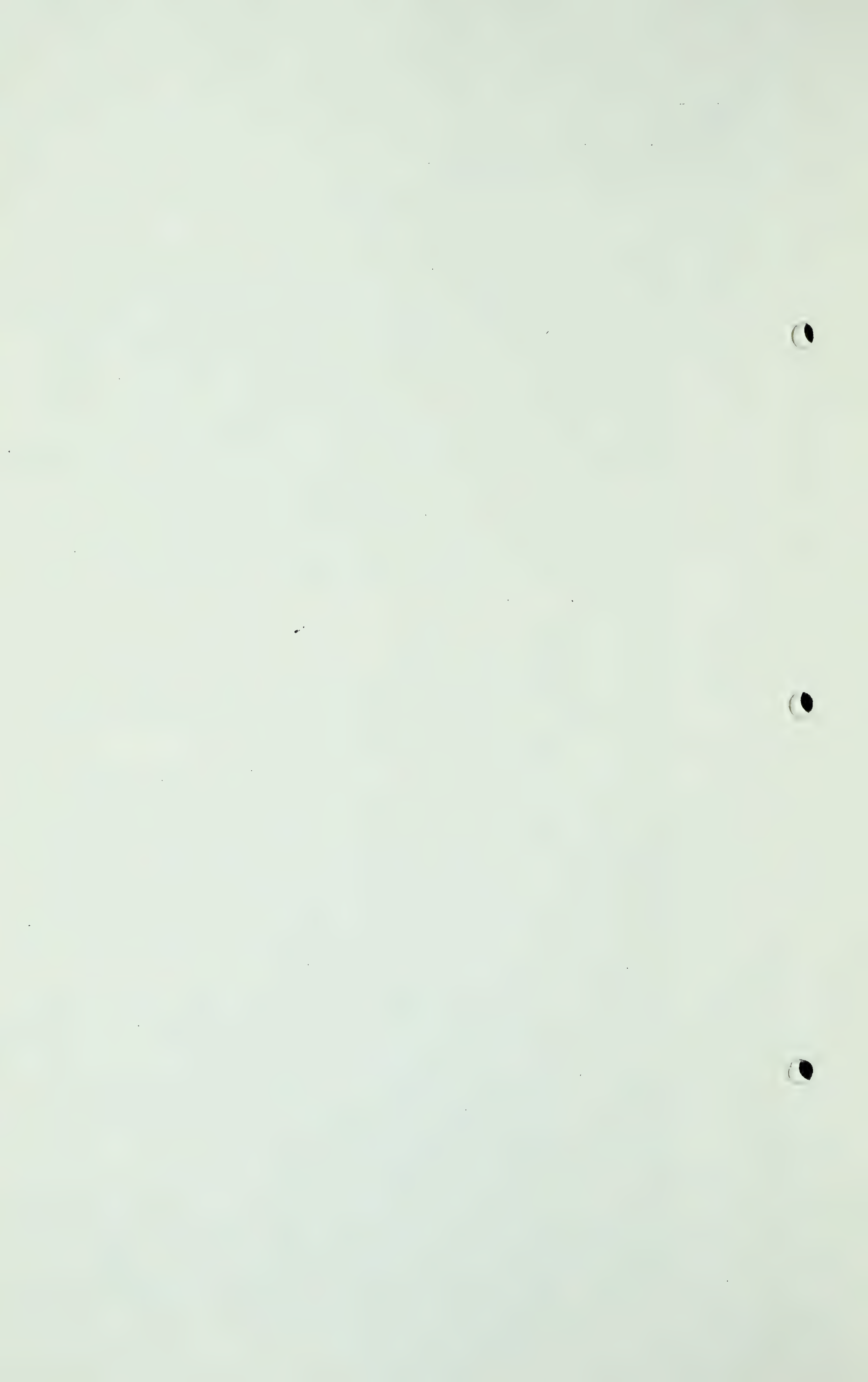
Q     Of its policies which are themselves open to doubt and controversy. I am quoting from a judgment of a high Court in this country or in the British Empire.

A     What you have just said seems good logic to me. I think it would be dangerous to be guided by your interpretation of the intent when it is not clear what the intent was. If I have interpreted your statement now correctly, unless we know the intent of this Legislature then let us forget about it. and just take the wording of the Act.

Q     The point I am getting at is that the question of what was or what was not in the minds of the Legislature is a debatable question. For that reason it is a dangerous precedent to use that when you come to apply and work out a statute. Would you agree with that proposition?

A     Well, I have no doubt there may be some danger in trying to interpret the intent unless the intent be fairly clear. To my mind the whole thing came up and the Act was passed on account of the continuing waste of gas, the continuing waste





Ralph T. Davis,  
Cross-Exam. by Mr. Chambers.

- 5442 -

of gas. The conclusion that I did reach and which I have related here to you, that is debatable but nevertheless I reached it and I have expressed it.

Q Yes, but you have made this as a recommendation, as a factor to be taken into consideration by the Board, as I understand it. Is that right?

A That is true. I have endeavoured to give the Board something concrete in the way of suggestions, recommendations and reasons for them. The Chairman has assured you and me as well that he will sift out the chaff and discard it. Do not make me discard it. Let the Chairman do it..

Q You have come forward with an opinion, as you have said, and you have predicated certain conclusions in part at least on that opinion.

A I stand on just that. I did just what you say I did.

Q My purpose is to examine before this Board as to how far the Board should go along with you.

A That is fair, that is perfectly fair.

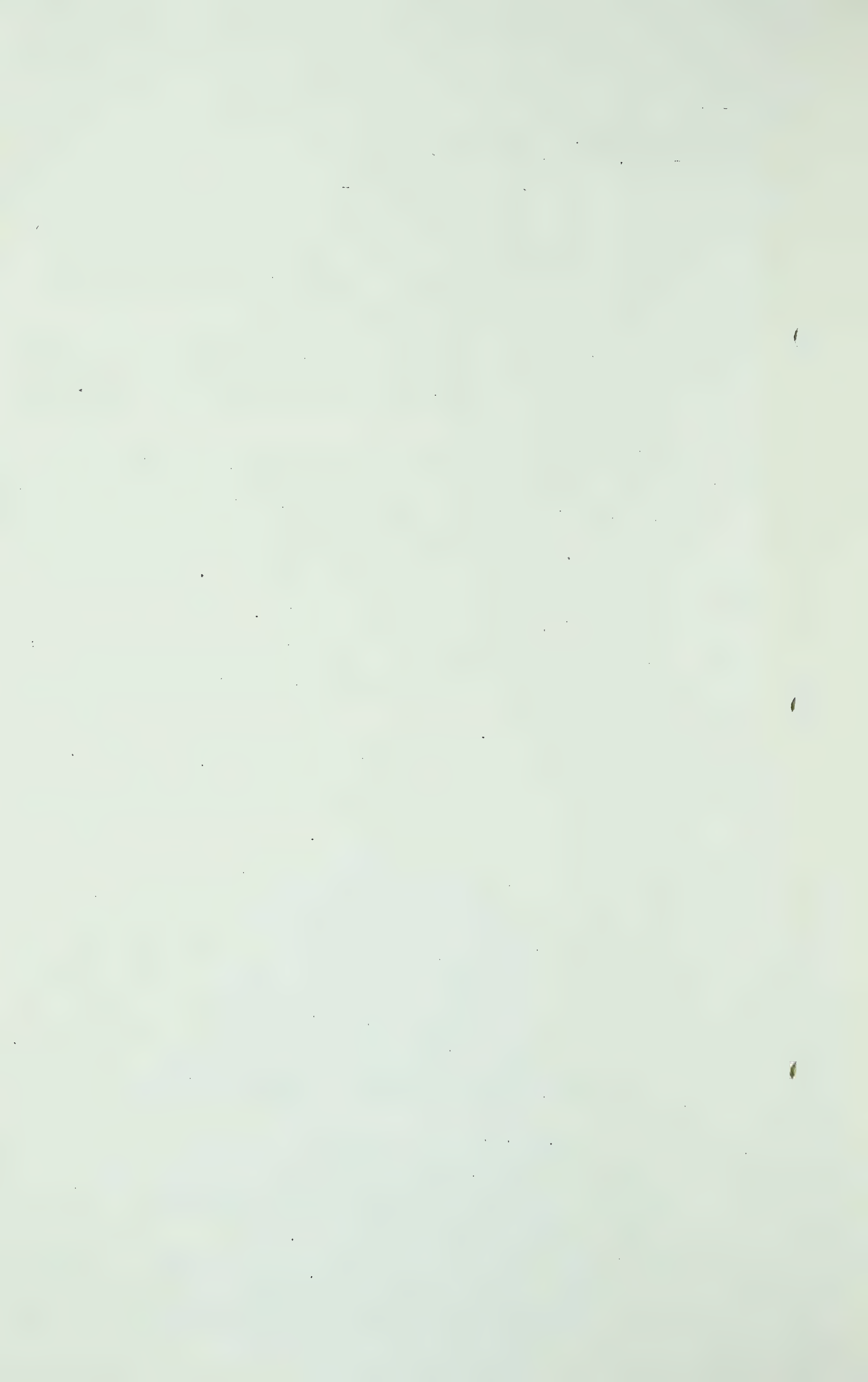
Q Would this be a fair way to put it, without referring to any more judgments, that if the law of this country precludes the Board examining into the motives of the Legislature then your opinion, which is predicated in part on that at least, would have to be qualified to that extent.

A In my opinion the Board might be disqualified from examining into . . . . .

Q In other words, the Board might be disqualified from accepting your opinion based on that hypothesis.

A As far as I know they might be.

Q Now on page 5 of Exhibit 148, as I understand it, you state there in effect that in the United States the Public Utility



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5443 -

approach to fixing the price of gas is used, that is right  
is it not?

A That is where prices . . . . .

MR. STEER: Natural gas sold to domestic consumers.

A Is used wherever the price of gas is under Government control.

Q MR. CHAMBERS: Under regulation?

A Under regulation.

Q Oh yes, and by Public Utility approach, as I understand it,  
as used by you on page 5, you mean the price based upon cost  
and a fair return on that cost.

A That is what we mean . . . . .

Q In general?

A That is right.

Q And then you express the opinion, as I understand it, on  
page 5 of Exhibit 148 that you do not believe that the  
comparative cost of using coal in the Calgary market has  
anything to do with what gas should sell for in Calgary and  
that that sort of comparison is not to your knowledge used  
anywhere as a yardstick by a public authority, in fixing  
retail gas rates. That is right is it not?

A That is what I say. I have in mind there the selling of  
gas in the regulated market in Calgary, principally the  
domestic market.

Q Now when we are talking about selling gas in a regulated  
market you are referring to the price of it, the sale price  
of it as fixed by a regulatory board?

A Yes, sir.

Q As I understand it from what you say on page 5 to your  
knowledge regulatory boards in the United States have not  
taken into consideration in fixing those prices of natural





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5444 -

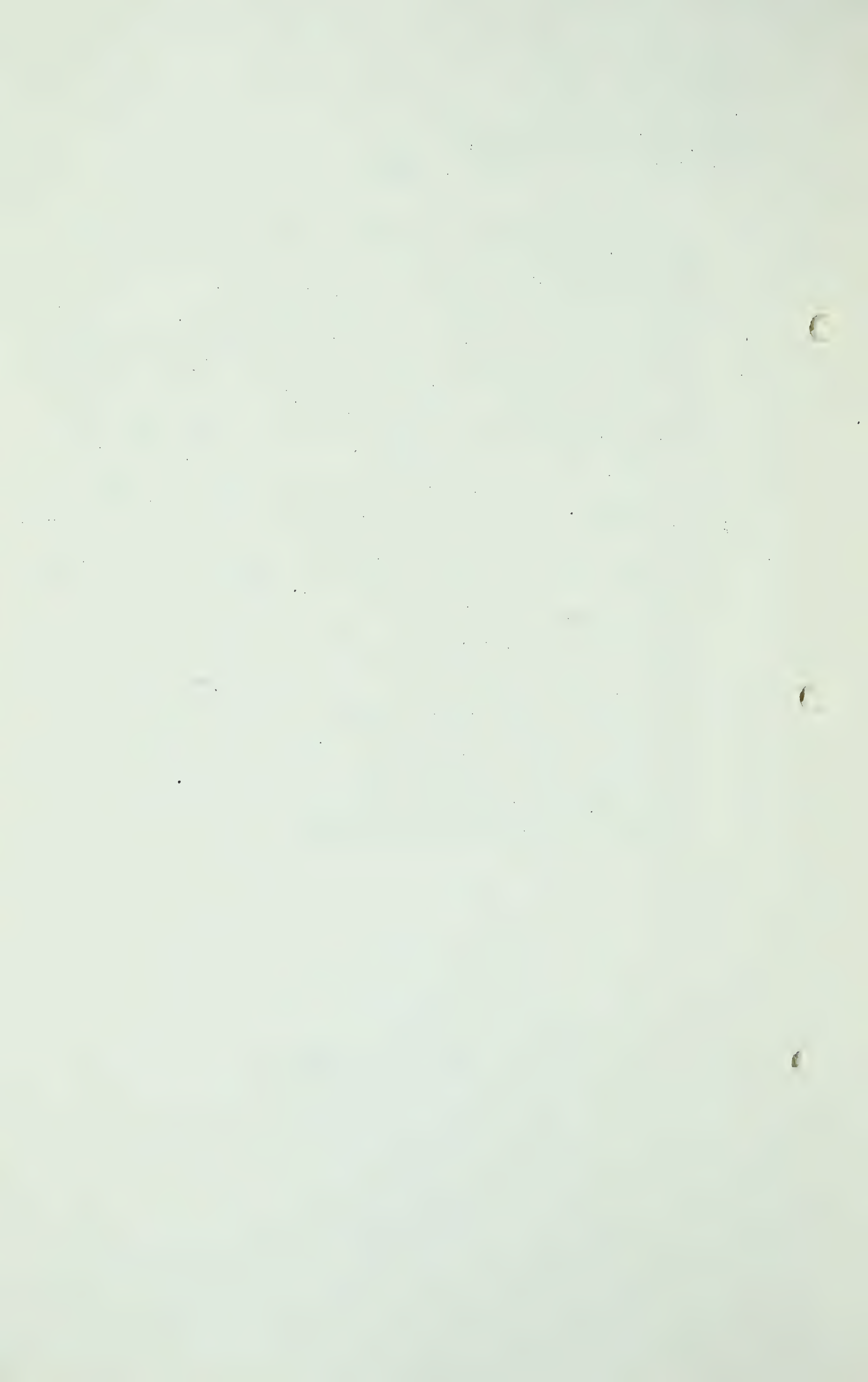
gas the competitive or comparable prices of coal or other fuel, that is right is it?

A So far as I know there is no other instance.

Q Well now, would you just tell us, just briefly, the extent of your knowledge or business that would lead you to have a fairly comprehensive knowledge, because I imply that from the fact you made this Report.

A All right. Some time in the very early 1920's, I think about 1922, it might even have been as late as 1923, I was employed by the Iroquois Natural Gas Company in a rate case, which serves the city of Buffalo, New York. A rate case before the New York Public Service Commission. In Pennsylvania, I have appeared before the Pennsylvania Public Service Commission in rate cases a number of times. That is where the Public Service Commission, where it is considering testimony, upon which testimony they would be somewhat guided at least in fixing the retail gas rate.

(Go to page 5445)



C-3-1 11.40 a.m.

Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5445 -

And in West Virginia, I have appeared there before the West Virginia Commission in a number of cases, several times, cases that dealt with the retail rates of the United Steel Gas Company and in Parkersburg, West Virginia, a case before the West Virginia Commission, where the rate in connection with the City of Parkersburg was under discussion, the gas being sold there by the Hope Gas Company.

I have appeared before the Ohio Commission, I think several times, I can hardly remember the number, in rates cases where these problems were before the Board, and where the retail gas rates were under consideration.

In Illinois, before the Illinois Commission, the question involved there was "What was the fair price for The Natural Gas Pipe Line Company of America to charge for gas brought to the vicinity of Chicago and sold wholesale?"

In Ontario, some twelve or fourteen years ago, I was employed by the City of Windsor and a number of neighbouring towns, in a rate case hearing where the ultimate question to be determined was the fair retail rate for natural gas. In that hearing incidentally, Mr. Chambers, I believe that the question did arise what it would cost people to heat with coal.

Q That is at the Windsor Inquiry, Windsor, Ontario?

A Yes, I believe that is so in that case.

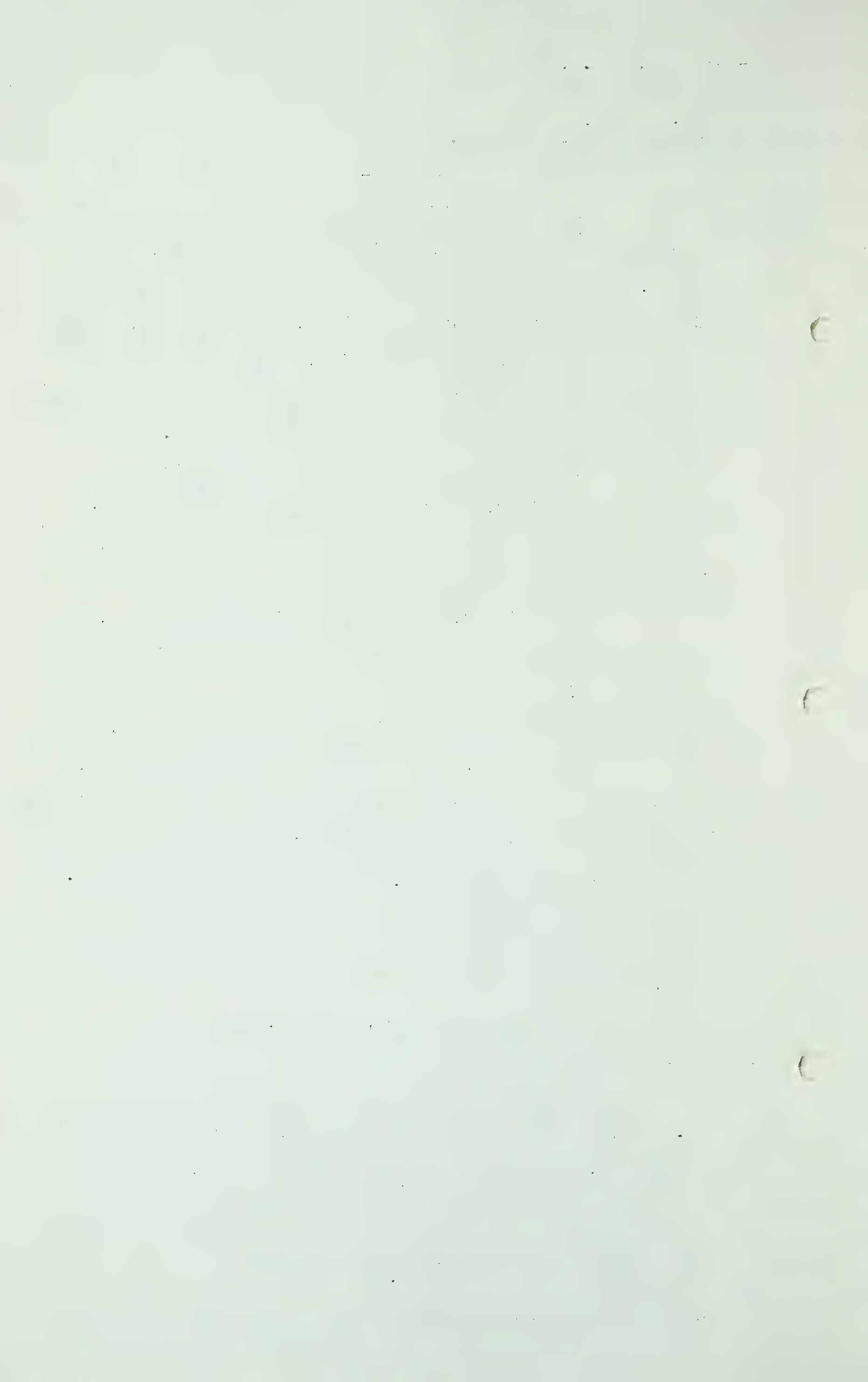
I have appeared also in one or more cases in Kansas.

Q Mr. Davis, I do not want to labour this, and I would like to shorten it, would this be a fair way to put it, that you, as part of your general practice in the United States, have been engaged in many natural gas hearings?

A I think it is fair to say so.

Q And that the only, - you now state that the only occasion





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5446 -

that you can recall where that matter was dealt with, or where it came up at all, was in this Windsor, Ontario, case?

A I think it did there because the situation in Windsor was a situation where the gas supply was limited and the Company, as well as the city, were trying to find a rate, that under all of the circumstances would be fair, fair to the community, and permit the Company to continue in business.

Q But in any event your own opinion, and that is supported by your experience before Boards in the United States, is that the value of gas as related to coal in Calgary, is of no importance as a guide to fixing the well-head price in Turner Valley?

A I stand on that statement.

Q I see. Now you told us in the first lines of your Report, I think, that you had read The Natural Gas Utilities Act, have you a copy of it?

A I believe I have, yes, I have it here.

Q Mr. Davis, would you turn please to Section 72?

A Wait until I find it, yes.

Q Section 72, sub-section 1 (s), it is an amendment that was added in 1945 by Chapter 31, I think it is?

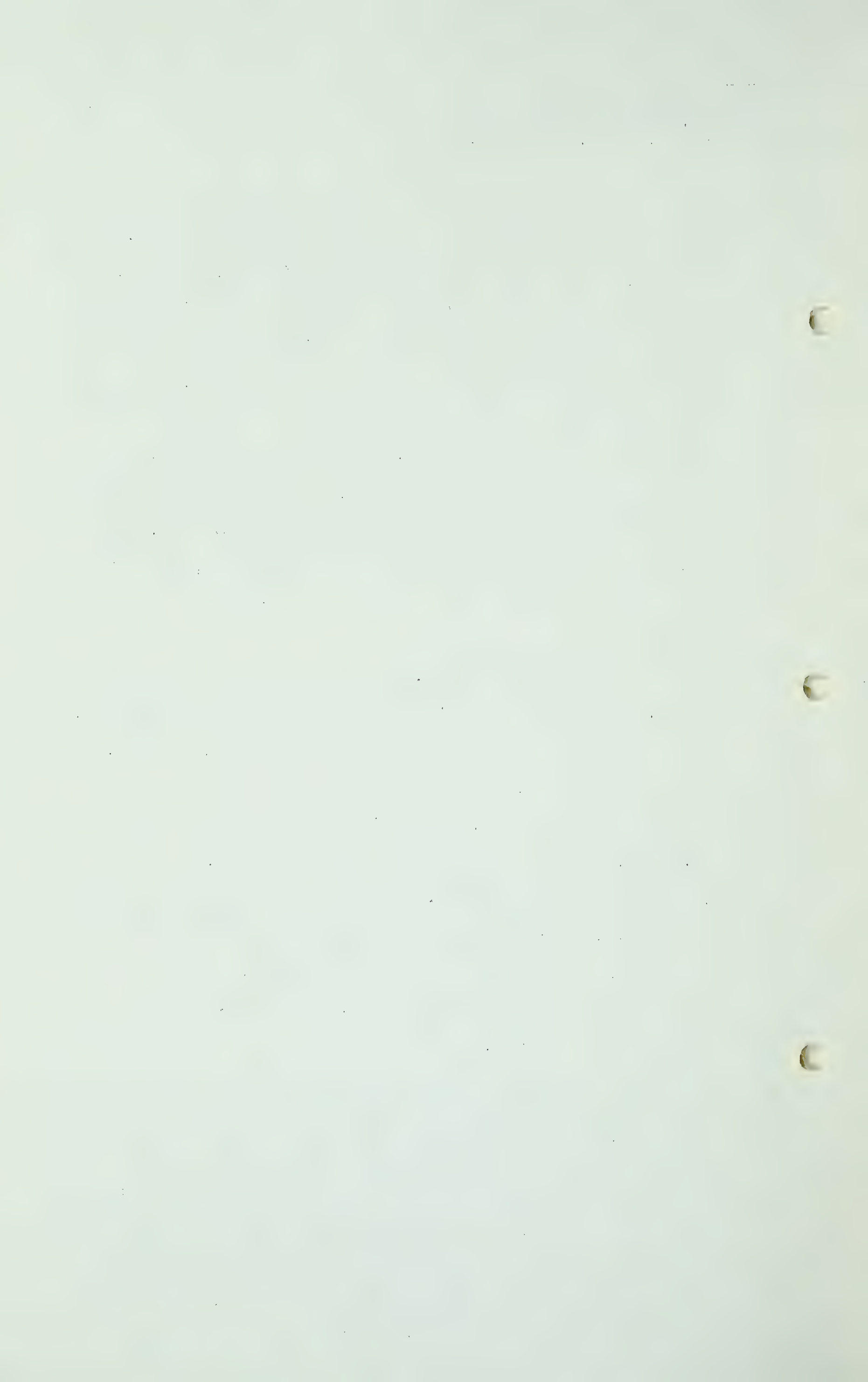
A I think that is in this book here, somewhere.

Q Probably at the back?

A Yes.

Q Now just let us examine that together, because this is one of the things that the Statute says, that the Board must pay some attention to, or at least it is a guide to the Board:

"Notwithstanding any of the other provisions of this Act in fixing and determining the just and reasonable price or prices as provided for in Paragraphs (a) and (b) of sub-section 1'



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5447 -

referring to the well-head price of gas, and the price in the field after gathering:

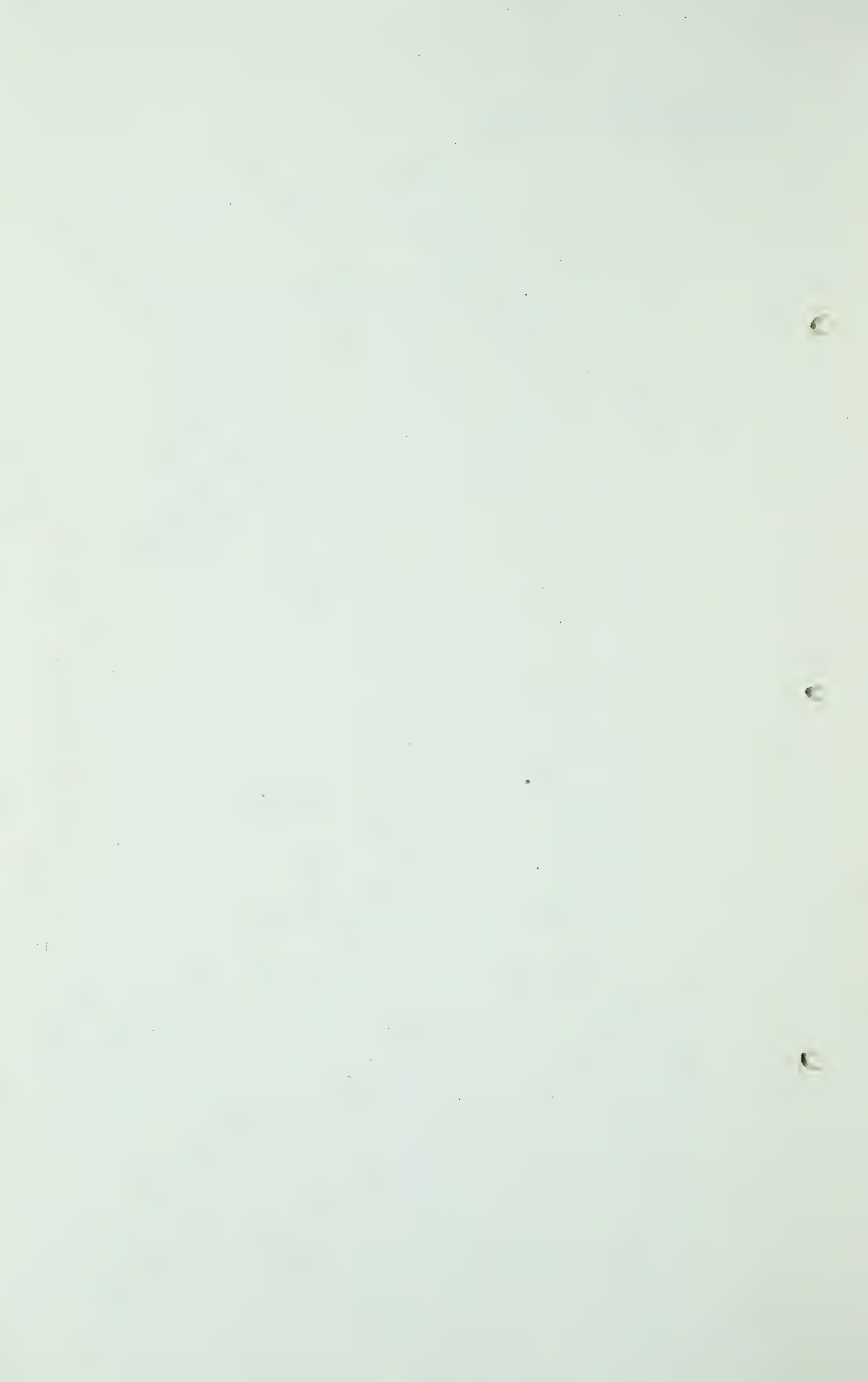
"The Board shall not be required or compelled to fix or determine the price or prices for, in respect of, or on the basis of any individual well or wells, or of the value or cost thereof or the investment therein or a rate of return thereon, but may instead fix and determine such price or prices as shall be applicable generally to all wells in a field, or may fix and determine different prices for or in respect of different sections or areas of a field, or may classify wells in a field in groups and fix prices paid for natural gas produced from such classifications or groups and in the fixing and determining of such price or prices, the Board may adopt any just and reasonable basis or method of arriving at or computing such price or prices as the Board may deem to be applicable or proper, having regard to all circumstances and factors involved."

Now, what I want to say to you, Mr. Davis, is this, - in the light of that provision do you still say that the comparable price of gas and coal in Calgary is something which this Board should not concern itself with, either in the fixing of the Calgary price of gas from known wells or in fixing the well-head price of gas at the well?

A I still say that is my opinion. I will just quote:

" I do not believe that the comparative cost of using coal in the Calgary market has anything to do with what the gas should sell for in Calgary."





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5448 -

That is what the gas itself is worth in Calgary.

Now this Statute, it gives the Board a privilege through the use of the word "may", the Board might, if they want to, go out and study coal prices.

Q But, Mr. Davis, your advice, and you are coming here to give advice, or to give your opinion for what it is worth, and your advice to the Board is that it should not do that, is that right?

A My thought is that one who does give consideration to the cost of coal and finds that the competing price for gas may be as high as say 70 cents, whereas gas is selling in the market for something under 30 cents, I would suggest to the Board that not much good will come out of that sort of a study.

Q Do you know of any similar provision, such as that, that governed or applied to any of those Boards in the States with which you are familiar, or came under consideration in those Hearings you were engaged in?

A Do I know of, you ask me whether the utility regulating body in the United States does take into account what some other fuel would cost, in fixing the rate?

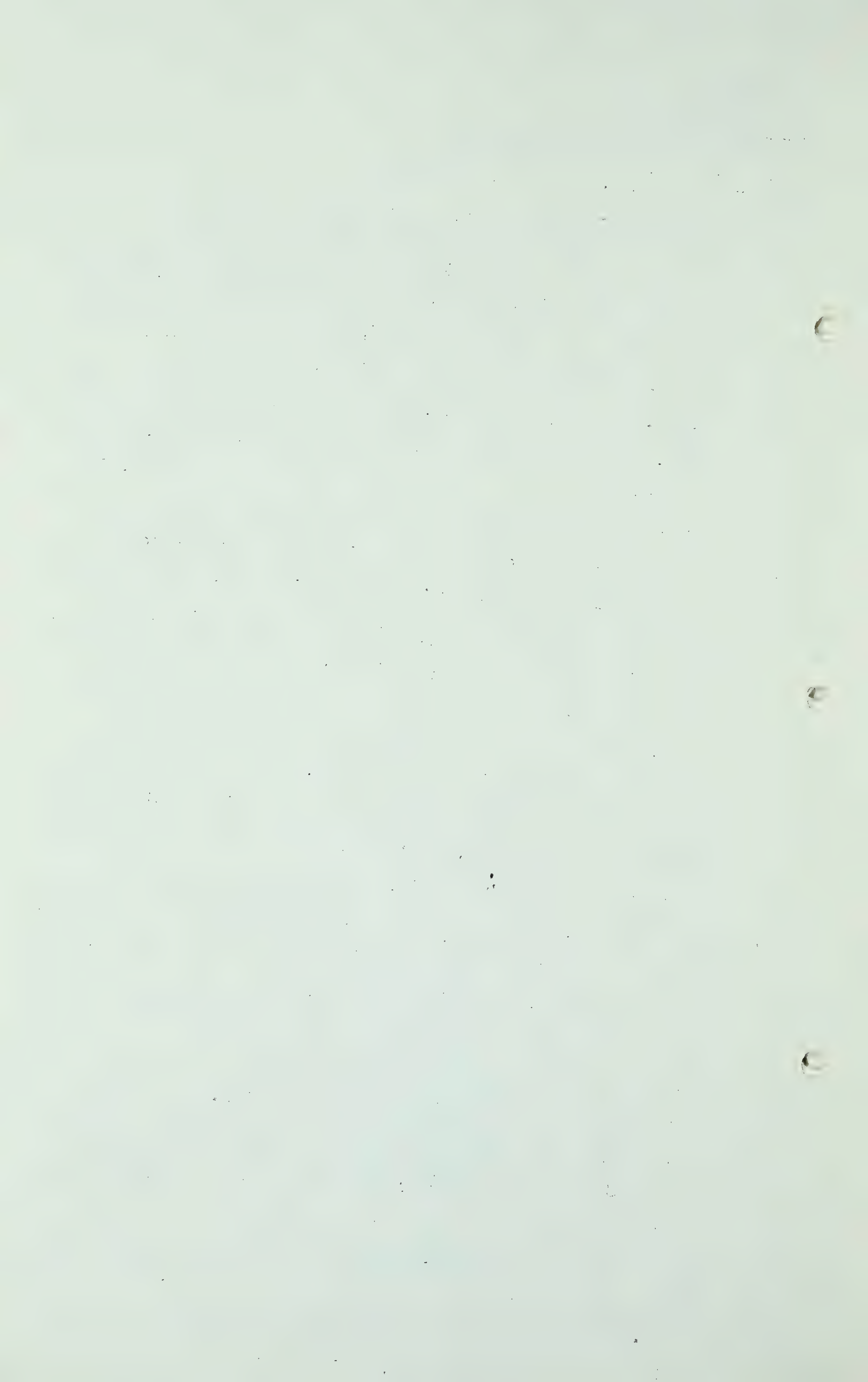
Q I would be quite glad to have you answer that although I had the idea that you had already answered that?

A I thought you were asking me that question.

Q No, I say do you know of any Board in the States or any law in the States that applied, on these hearings that you were engaged at, that were similar to that provision which we have just read together?

A I certainly cannot say whether I do know of any, I cannot say that.

Q I will be frank with you too, Mr. Davis, and say that I do not



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5449 -

know of any and I have not heard of any.

THE CHAIRMAN: Of course, to answer that, he would have to know whether there was any Statute of that kind on the whole of the North American Continent.

MR. CHAMBERS: I am just asking him if he ever ran across any.

WITNESS: And I am trying to think of that, no, I do not recall anything like that.

Q MR. CHAMBERS: Well then, the fact that the Boards in the United States, as you say, have not given any consideration to the competitive prices of coal and natural gas, in fixing the rate, then you will admit, I take it, that in view of specific provisions like the one we have here, different considerations might very well apply here?

A I would not think that this Board had any obligation to follow the lead of a Board in Florida or Oregon, what those people do or did that is their business. What this Board is going to do is this Board's business, but if I can point out to this Board calculations of the competitive costs of heating a house using coal, that it is so far above the cost of heating that house with gas, that they are wasting their time by talking about it, maybe I have done them a little good and that is all I am trying to do anyway.

Q I am examining you as to what you are recommending and your reasons for it?

A My reasons are not what they do in Florida. It goes to the effect, that to use coal would cost a lot more money than even the Gas Company would ask the people to pay.

Q Am I right in this, Mr. Davis, that you have expressed an opinion that you think the Board would be ill-advised to use that competitive fuel cost as a basis of fixing prices?





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5450 -

A I think so.

Q And one of the reasons, one of them, not all of them but one of them is that you are strengthened in that opinion, as I understand it from your report, is that that practice has not been followed in the United States, is that not right?

A I think that is a reason, not a controlling reason.

Q What?

A Not a controlling reason but.....

Q But it is one of the reasons which you have mentioned in your Report, Exhibit 148?

A Yes.

Q Now, Mr. Davis, just let us take this hypothetical case and I want to examine the whys and the wherefores of it; supposing there is no gas supply available anywhere else for the Calgary market than Turner Valley, now I think you have already said in effect in your report, on Page 14, that you would admit or take it for granted that the well-head price of the Turner Valley gas going to the market should be 2 cents, you do not think that is unreasonable?

A I think that is a fair figure.

Q All right. Now let us assume we have a well-head price of 2 cents, and we will leave it, we will assume there is no problem of conservation or anything like that; then we have the gathering costs and we have the scrubbing costs and assume with me that those costs come to considerably more than the  $7\frac{3}{4}$  cents, that is one item; then let us assume that the costs, that that price other than the  $7\frac{3}{4}$  cents, I mean higher than the  $7\frac{3}{4}$  cents, plus the costs of getting it to the Calgary market and distributing it, amount to, just added up together, amount to say 52 or 53 cents per M.C.F., do you suggest that under circumstances such as those, that the Board,



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5451 -

that this Board or the Utility Board or any other Board, should not give any thought or consideration to it, to the relative costs of coal and gas in Calgary?

A Of course, Mr. Chambers, my suggestion or recommendation is made on the basis of the facts that we have in front of us.

Q I know?

A And not upon some theoretical thing. I do not see why I should be bothered to consider a theoretical thing.

Q But you come forward with a theory and I am trying to test your theory?

A Why should I be bothered to think about it?

Q You do not want to answer it?

A I am perfectly willing to answer but I think we are wasting time.

Q The Board has the say about that?

A Well let the Board tell us, <sup>do</sup> you want to hear any more about that?

Q THE CHAIRMAN: Yes?

A O.K. Now I will try and answer, you say you have got, with the price of gas based on 2 cents at the well and costs of gathering, transporting and distributing, it all brings the price up to about 50 cents.

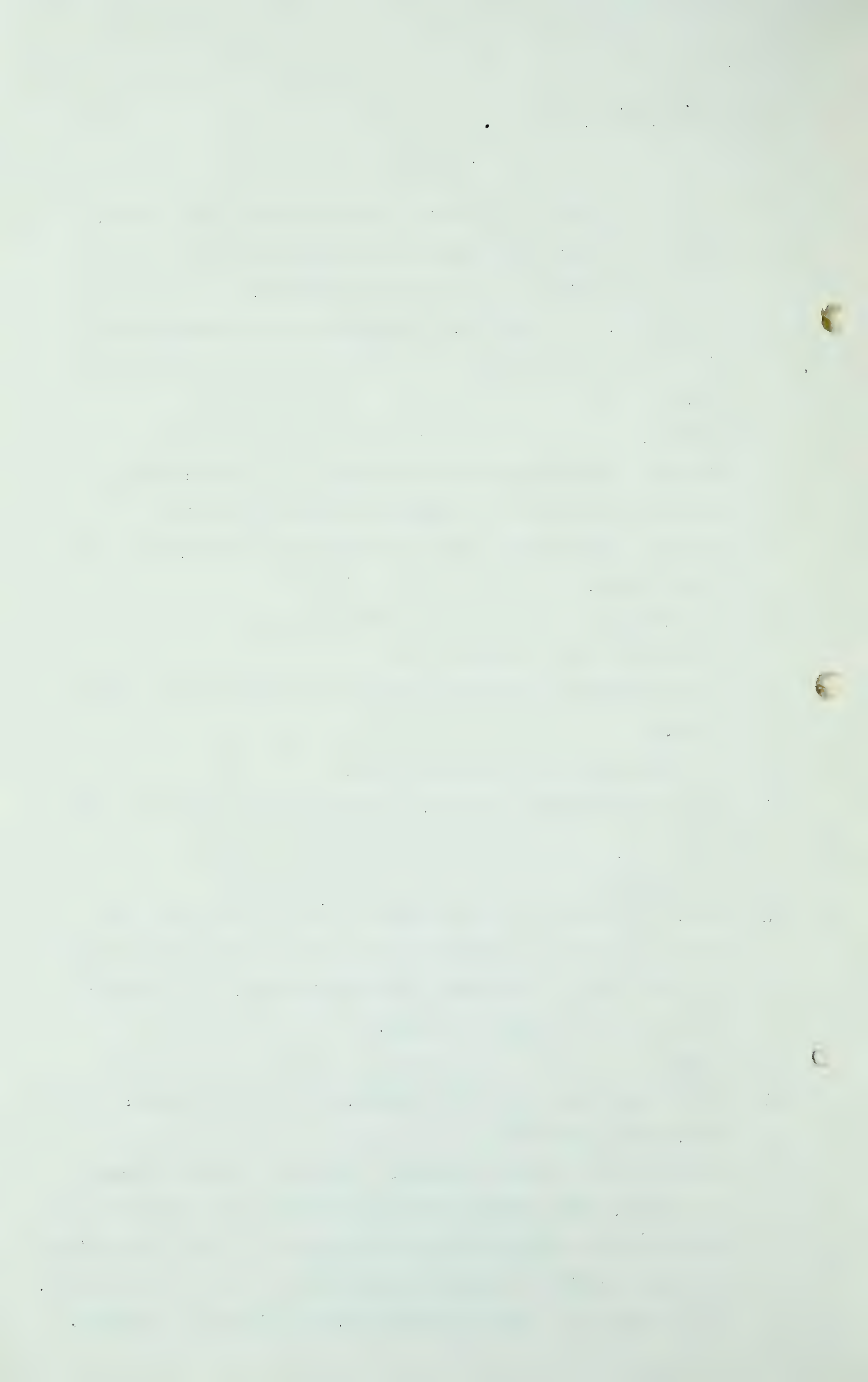
Q Yes?

A Are you willing to go then higher, say go to a dollar?

Q Yes, take a dollar?

A I would like to take a dollar. Then if a Board, knowing the facts, would observe that it is cheaper for people to use coal than gas, then they ought to say to the Gas Company "You have the privilege of selling this gas at a dollar a thousand, if it costs you that much to do it, that is your privilege,





Ralph E. Davis,  
Cross-Examined by Mr. Chambers.

- 5452 -

and if you cannot sell it at that, if you want to raise the price, that is your business too."

Q In other words, as I understand your theory, it is the cost to the utility, no matter what the price is, and it is up to the people to decide whether they want to take it or leave it?

A I do not think that any Board should command a company to give service and continually lose money in doing it. Let us take the actual cost down there in Windsor,, the Gas Company was asking for 85 cents. The price was, I believe, 55 cents. I am on the City's side of this thing and it came out with the competitive prices and so on, that the Gas Company would not make too much money if they sold the gas at 85 cents and the decision in the case, - it went kind of hard with me, the Gas Company got not all that they asked for but they got more than half, and they put the new rates into effect and after about a year of experimenting with those rates, they came out and voluntarily reduced those rates because they found they could not sell the gas.

Q As I understand it, it was 85 cents?

A That is what they got. I think they got about half the increase they asked for.

Q And at 85 cents, I understand that the gas was competitive with coal, did I understand you to say that?

A I think the 85 cent figure was arrived at the way you are arriving at it, assuming the gas was worth 25 cents in the field and then you go from there, there was the fair rate of return and all the other things that came up, and altogether it came up to 85 cents, and when they put the higher rate into effect they lost so much business, when they put the 85 cents in effect they lost so much business that they found it better to



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5453 -

sell more gas at 75 cents than sell a little at 85 cents.

Now that actually happened, Mr. Chambers.

Q Now, Mr. Davis, as you know the Gas Company has for years bought its gas supply under what is known as the "Royallite Contract"?

A Yes.

Q Which was entered into.....

A All of its supply except what they have taken from Foremost.

Q For emergency purposes?

A Yes, that is right.

Q And in your reading of this Act, you would agree with me, I take it, that one of the duties that devolves on the Board, is to fix a just and reasonable price when it revises that Royallite Contract?

A They are commanded to do that.

Q Yes, and that that just and reasonable price is a part or is to be a part, and I suggest an important part, of the just and reasonable retail rate that some Board must fix for Calgary, that is right, is it not?

A It will have its bearing, certainly.

Q So that the price that this Natural Gas Utilities Board ultimately fixes as the price under that Royallite Contract, will have a considerable bearing on the rates in Calgary?

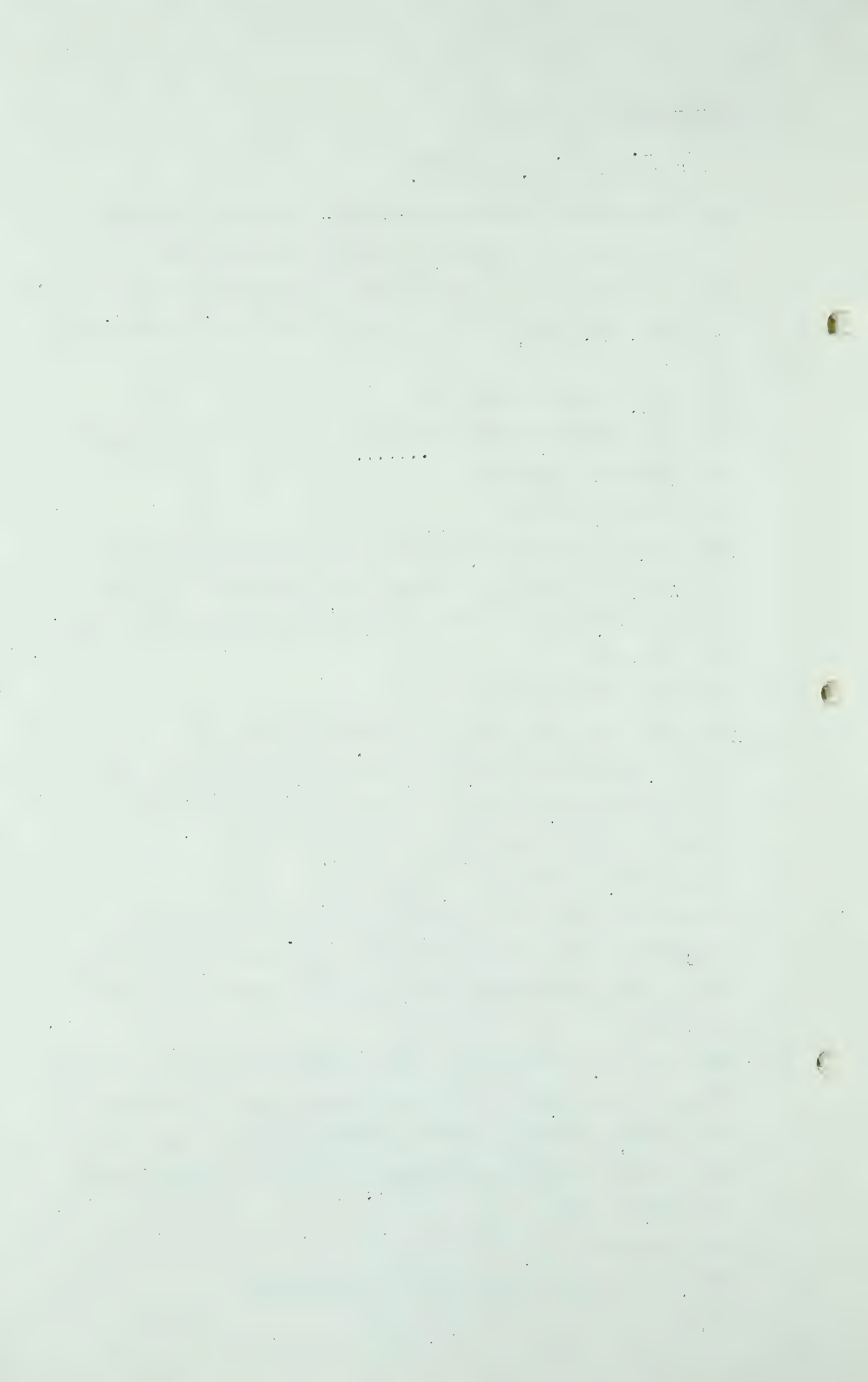
A Certainly.

Q Yes. Well now, going back to this competitive business of coal and gas, I am going to read you this statement, Mr. Davis, from Wilson, Herring & Eutsler; "Public Utility Regulation, 1938", and I am reading from Page 95, are you familiar with this book at all?

A No, I am not.

Q And this is what it says, and the heading is:





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5454 -

"Reasonable and Reasoned".

The obligation of charging just and reasonable rates is an obligation to charge rates not above a maximum point set by the value of the service to the user, and not below a minimum cost set by the cost of producing the service; within the zone between these two lies the area of reasonableness. Practically, therefore, a just and reasonable rate is one that returns to the utility an amount equal to and usually greater than the cost of producing the service and that provides the user a service at an amount not more than and usually less than the value of the service."

Now are you prepared to agree with that proposition?

A Why I think that is all right. I was not there when he was writing that, but it has to be more than cost, and it must not be sold for more than it is worth, that is all it says, is it not, does it say anything more than that?

Q Yes, I would like you to read it carefully, because I want to ask you another question about it.

(Go to page 5455).



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5455 -

Q Do you agree with it ?

A I would say it is all right to me.

Q Well now you will observe here that he speaks about the service to the user. Can you think of any other test or better test to use when you come to appraise the value of the service to the user, when we are talking about the sale price of gas than to obtain evidence and consider it as to some other material fuel or what have you that will supply similar service ?

A I suppose Mr. Chambers, you would have me say -

Q No, I would not have you say anything other than what you want to say yourself.

A I said I suppose.

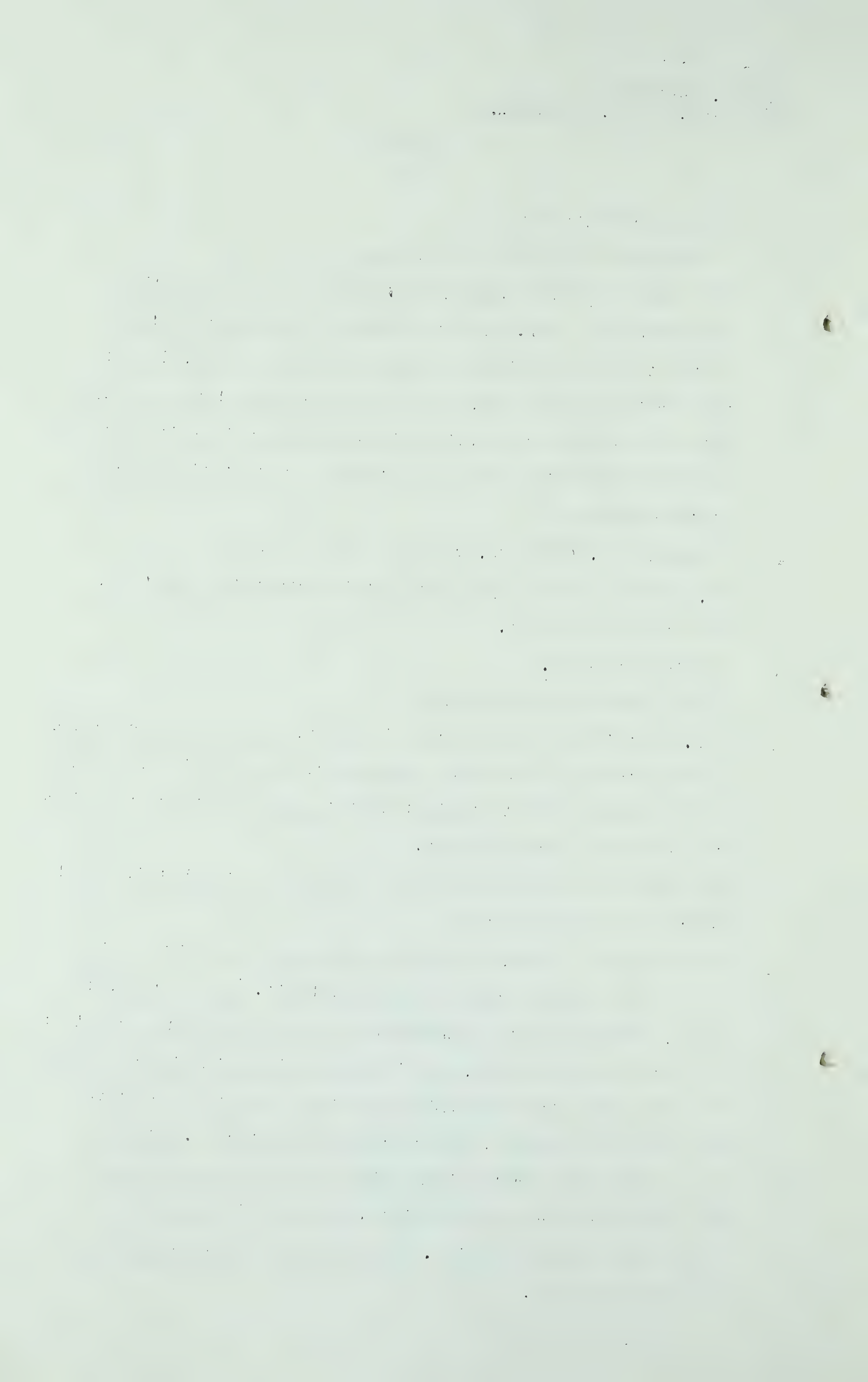
Q That I would have you to say ?

A Yes, that if there be no coal in Spain, but if a fellow could go over there and open up a gas field, the gas will be valued on the basis of what it might cost to make gas there by bringing coal there from England.

Q Would it not also then have some bearing as to what it would cost to get coal in there ?

A It would have a bearing in that particular case if a fellow owning gas fields could get away with it. If he could do that. Take the city of Amarillo on the edges of the greatest gas field in the world, and if the Amarillo Gas Company could get away with it we should find out what it would cost to dump coal down there. Where could you get coal. Colorado coal. Raise the rates in Amarillo because somebody thinks they can bring coal to Amarillo. Personally I do not go along with that reasoning. I do not believe that is the way business is done.





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5456 -

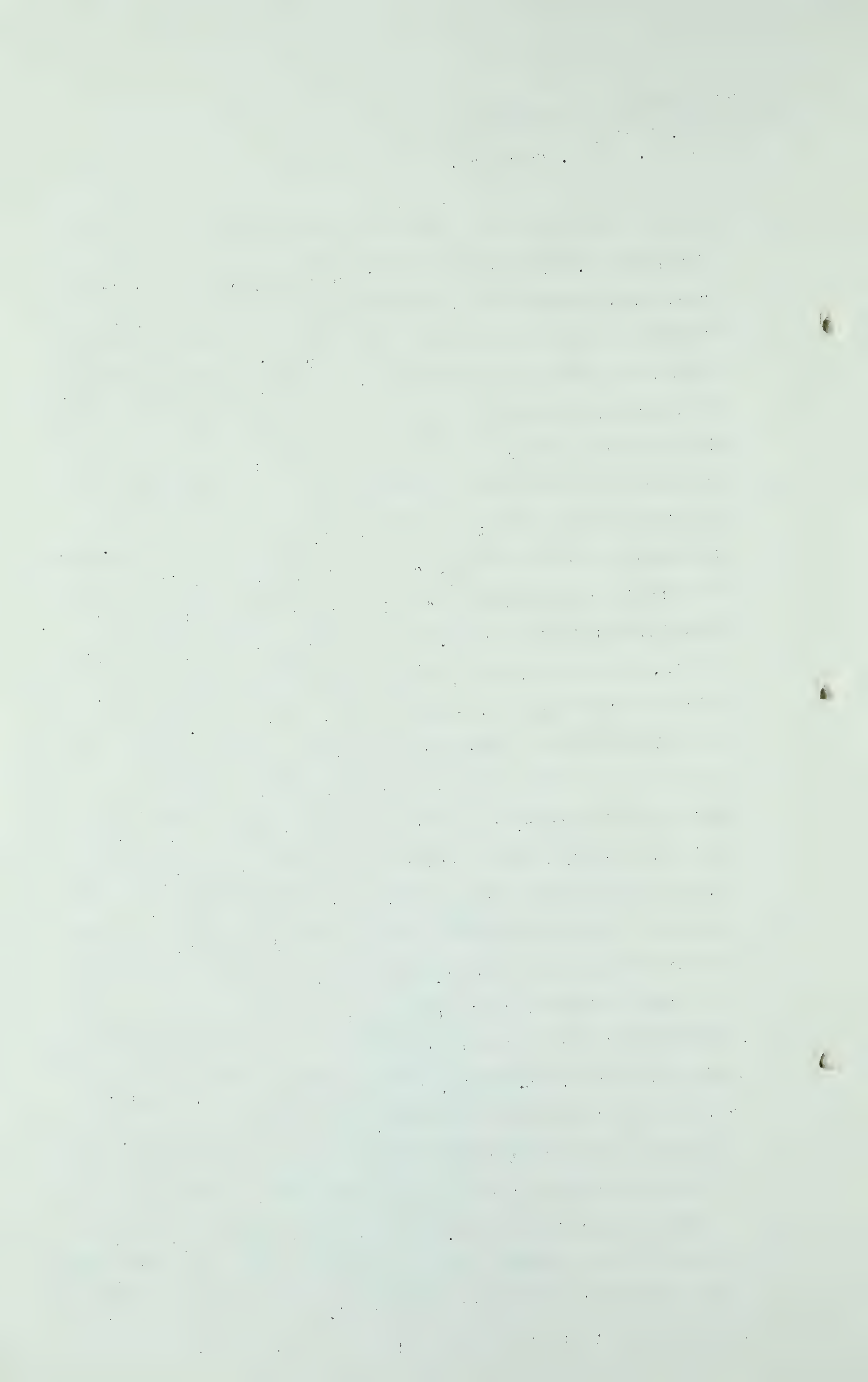
Q You know Mr. Davis that there is a considerable quantity of coal quite capable of delivery into the Calgary market ?

A I understand there is an enormous amount.

Q Well now do you say that the laid down cost of that coal in Calgary for manufacturing purposes or for household heating is of no consequence at all when we come to talk about natural gas rates in Calgary ?

A I think it is of great consequence if it be competitive. If the coal man can bring his coal in town and sell it to the brewery in carload lots and drive the gas man out of business, certainly it is important. But I am talking about the price of gas, the regulated price of gas here and the well head price and the seven and three-quarter cent price. Those are the prices I have been talking about and I have gone far enough to tell you I do not believe the price of coal, the cost of coal rather, the equivalent service using coal is of any importance in that particular matter and if I did believe so, then I would have to admit that if the coal miner gets a twenty-five percent raise in his wages and the price of coal goes up twenty-five percent, then immediately the Gas Company would make a jump in their rates and I bet if you buy gas - you would not agree with that ?

Q Would you please, Mr. Davis, turn to Page 5 of your Exhibit 148, the first complete paragraph, and the last sentence, - "I do not believe that the comparative cost of using coal in the Calgary market has anything to do with what the gas should sell for in Calgary, and this sort of comparison is not to my knowledge used as a yardstick anywhere by public authority in fixing retail gas rates". Now I am just trying to reconcile that statement that you made there with what you



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5457 -

have just told me now. I understand you now think the coal should be in the picture somewhere ?

A Yes, I think the printed statement there, I know that I was thinking of that, the Calgary household rates. The domestic rates I should have said that Mr. Chambers. That is what I should have done.

Q Do you want that to apply to domestic rates ?

A I do.

Q Well now suppose it costs a dollar a thousand cubic feet to heat a house in Calgary with natural gas and suppose that I can get coal laid down in my house for eight dollars a ton. Don't you think the relevant price of coal and gas under those circumstances would have some effect ?

A Why certainly in those circumstances. Under those circumstances I was talking about. The circumstances of a situation where we can distribute gas to the domestic consumer for something under thirty cents. Now you are going to distribute it to him at a dollar. Why certainly coal is a big factor.

Q Now I want to get this clear, that you are of the view that the present retail price of gas in Calgary is far below the competitive coal level ?

A For household use.

Q Far below.

A Yes, I think so.

Q What about the industrial and commercial ?

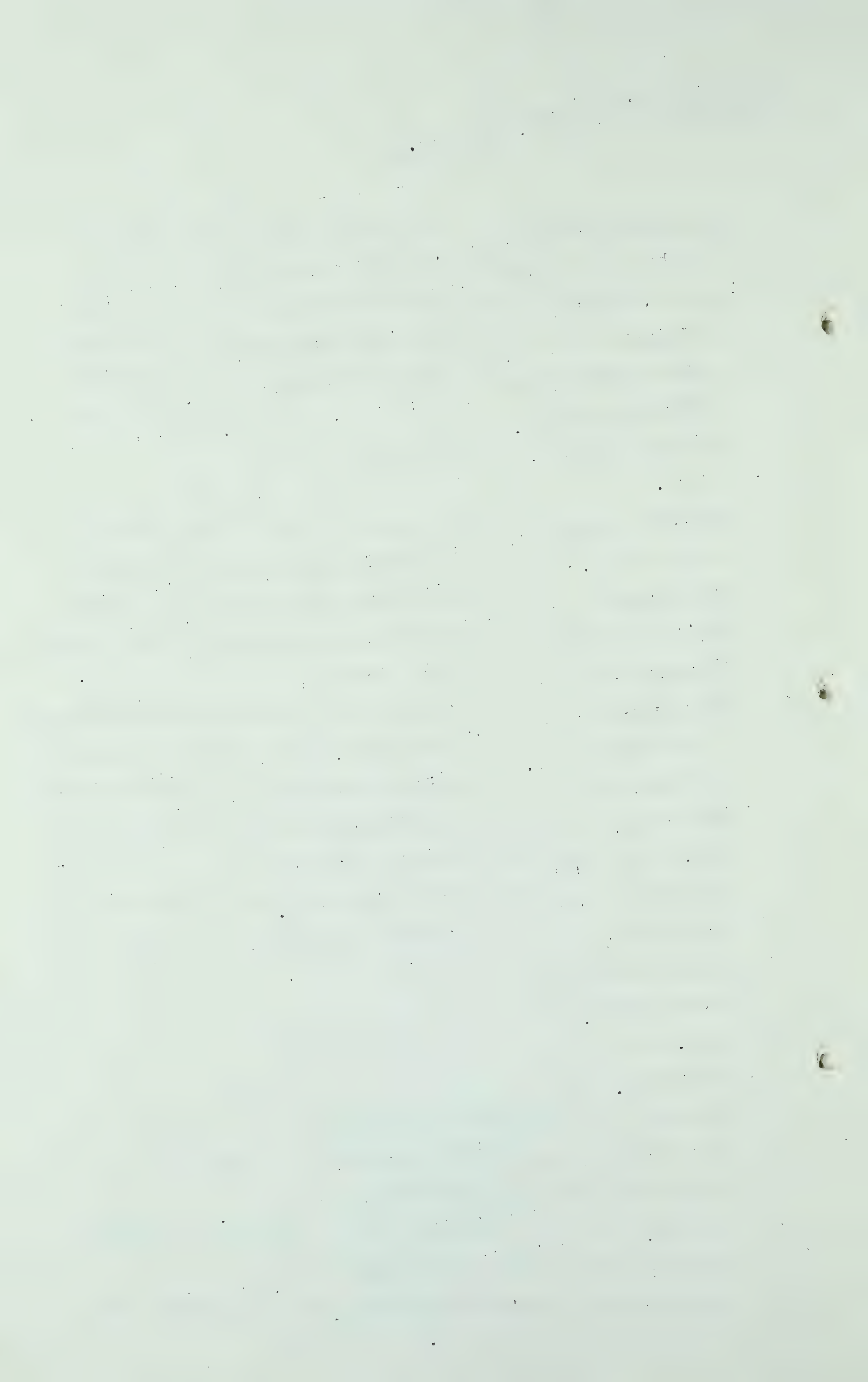
A Well I think it must be different there. It must be.

Q You have not given any study to it ?

A No, I have not. So I think it must be different, otherwise there would not be any coal brought to town.

Q You come from Pittsburg. do you not. That is your home town ?





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5458 -

A I used to. I live in Houston, Texas.

Q You were in Pittsburg ?

A Until about the first of this year.

Q And in Pennsylvania, it is a coal state, is it not coal, c-o-a-l?

A That is right.

Q And you also use gas ?

A Yes.

Q Natural gas ?

A That is right.

Q And do you remember a decision or a case, I am not suggesting you were necessarily engaged on it, the Pennsylvania Light & Power Company vs. the Public Service Commission, back in 1937 ?

A I do not remember the case.

Q I will refer it to you. The Pennsylvania Light & Power Company vs. the Public Service Commission. It is reported in 1937, 19 Public Utility Reports, New Series, Page 143, before the Pennsylvania Supreme Court, and this is the headnote that I have taken from the digest of that case. I am not asking you to verify that, but I am asking you to assume that is what the Court held.

"Evidence as to the price that will be paid for natural gas in competition with other fuels should have the careful consideration of the Commission in the fixing of a proper rate".

Assume the Court said that. I understand you disagree with it ?

A I am talking about Calgary as you know.

Q Yes.

A I am not saying it should not as a matter of principle have any bearing. I am saying just as a matter of business the



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5459 -

prices are too far below to make it worth our while to spend time on it. If the price of gas here for retail service was fifty cents instead of twenty-seven and twenty-eight cents, the price of coal was six and a half instead of eight and eight and a half, or something, I would have to admit that the price of coal had an important bearing.

Q You say in effect if domestic gas would get up around fifty cents and coal was around six and a half there would be competition but you do not think the situation is here ?

A No, I do not think the situation here, just because the Pennsylvania Court found a situation quite different.

Q But what I read to you does not assume they found a difference.

A Well I know it was different. Yes. I was employed once upon a time by that Pennsylvania Power & Light Company in matters of their gas rate. They were not selling gas for twenty-seven cents either.

Q But the thing that interests me, Mr. Davis, here is a decision in a court that was your home State, where you have both natural gas and large coal supplies. Now we have here in Alberta and in Calgary natural gas supplies and fairly extensive coal supplies and as I understand it that notwithstanding that principle laid down in that case by the Pennsylvania Supreme Court, you do not think that this Board should give much consideration to a comparative coal price ?

A And only for the reason that the circumstances are such it is an impracticable thing to consider in my view. I have in my studies, as to taking natural gas to a place, given studies for people who want to take natural gas from the Monroe field and Birmingham, Alabama, where the fundamental question involved was, will the gas command a price sufficient to justify the





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5460 -

pipeline and who is going to say what the price will be in Birmingham. It was the coal man. It was the coal at Birmingham we were looking at right then before we ever built a pipeline. Now it is only gas we are dealing with here with a situation where gas at twenty-seven or thirty cents is not going to have any competition from coal in the domestic market that I make the statement on Page 5.

Q And that statement you say would apply up to fifty cents ?

A No, I would not make that statement. No I did not say that.

Q Would you say ?

A I do not say that. I said if the price were fifty cents then this statement would not hold.

Q Then somewhere in between twenty-five cents and the fifty cents it might come into play ?

A I would think so.

Q Now what if gas got up to thirty-five cents ?

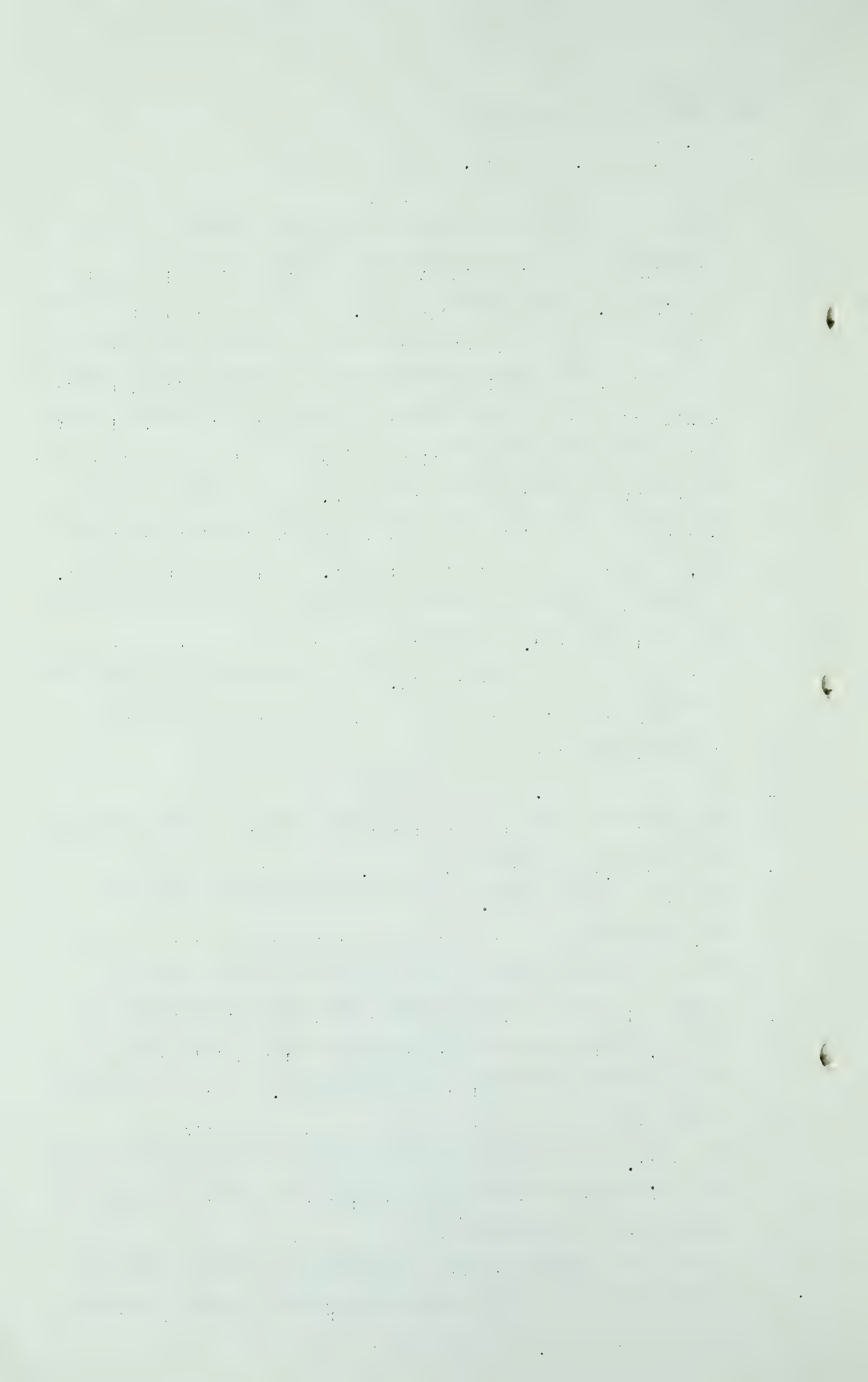
A You would not expect me to answer that without doing some considerable pencil work.

Q No, but I assume that having made this statement that you probably did ?

A Well I will endeavour to approach your question with an answer. I think as you started going from thirty cents upwards you began to meet coal competition. By the time you get to thirty-five cents you have enough competition to think about it.

Q So if the price got up around to thirty or a little over then this business of the relative cost of coal and so on would be something worth considering ?

A I would not think it would be bothersome at thirty, but you said thirty-five. Let us not jump around back to thirty or



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5461 -

fifty.

Q THE CHAIRMAN: And what would the relative coal price be with gas at thirty-five ?

A Well I have not made really a study of that, but I am only saying in the present market I would expect the Gas Company to find a few customers unwilling to pay thirty-five on the ground they could save a little money even with a lot of extra work by using coal.

Q MR. CHAMBERS: Mr. Davis, as I understand you, you gave an address at the summer quarterly meeting of Inter-State Oil Compact, entitled "History of Natural Gas, Industrial Conditions, etc."

A Yes, I have heard of that.

Q Just one statement I want to refer you to on Page 105. You say, "I am talking about coal and its development, because it is the greatest of the competitive fuels for natural gas. We will understand better the position that natural gas now holds and is likely in the future to hold if we have some understanding of coal". I think you will agree with that statement or do you still stand by it ?

A Naturally.

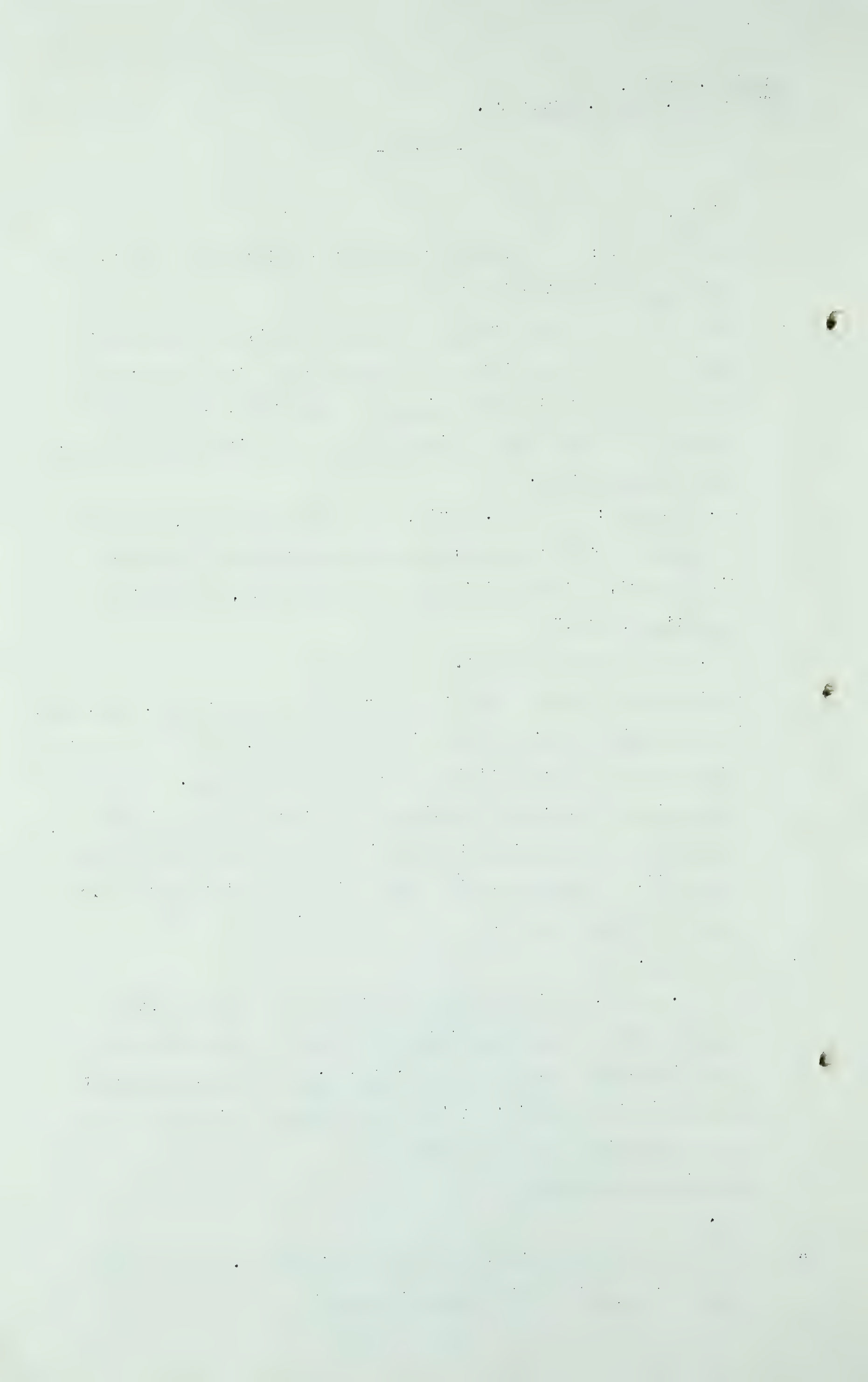
Q Now Mr. Davis, what I am getting at is this, this Board is charged with the responsibility of fixing a well head price for natural gas and do you not think with the laid down cost of coal in the market that that gas would be laid down at has a very important bearing on that ?

A Speaking of Calgary ?

Q Yes.

A Well I have already told you I do not think so. You quoted from a statement of mine in that paper ?





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5462 -

Q Yes.

A And you will realize that I stand by the statement that one of the greatest competitive fuels with natural gas is coal. That does not mean there is any great competition between coal and natural gas in San Francisco. They do not have any coal in San Francisco. Neither would there be any great competition between coal and natural gas and there is in the City of Pittsburg where I have lived for twenty-five years. My neighbours on both sides of me cook with gas and heat their houses with coal.

In other words, the nuisance of handling coal does not appeal to them as sufficiently important to be willing to pay a little more for gas. There is a very keen competitive situation in Pittsburg .

Q Which situation as I understand it does not exist here and for that reason that yardstick should not be applied ?

A No, when I heat my house in Pittsburg with coal I am paying for natural gas sixty cents a thousand for the first ten thousand cubic feet per month and forty-five cents per thousand for all over ten, so my average price for the gas I use in January is something around fifty cents a thousand and you can imagine that coal companies can compete with that. Especially when we have better coal, not as much of it, but better.

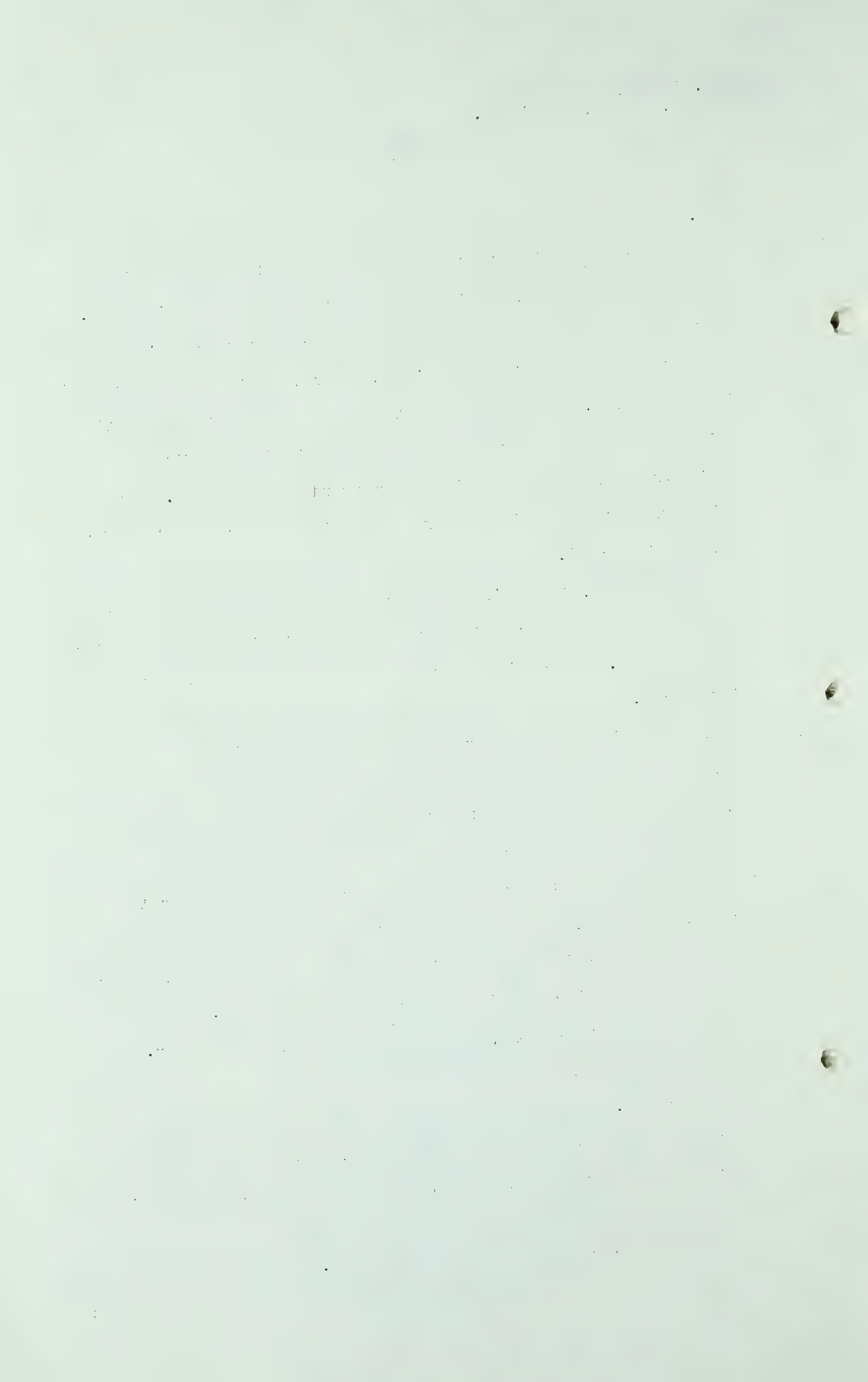
Q But that situation does not exist here ?

A That is right.

Q Now turn to Page 6 of your Exhibit 148, and I am referring particularly to the last paragraph of that page. You say:

"In Turner Valley we are dealing with a gas supply that has been depleted by extreme waste of gas".

And then you go on to state in the second sentence afterwards:



1-3  
Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5463 -

"This wasteful program made it impossible to attract industry to the field. It made it impossible to pipe gas to any great distance from the field."

Then you go on to refer that many years ago you studied or reviewed the possibility of piping gas to Regina, Moose Jaw, and Winnipeg and you said:

"...the principle reason for reaching a negative decision was because the wasteful program of gas production indicated that the project would not have a sufficient life to justify the large investment involved."

Now when did you make that review or study, Mr. Davis ?

A I cannot give you the year but it was somewhere around 1930, and was about the same time a similar study to determine the feasibility of a pipe line into Seattle. Delivering gas into Spokane by the way. I mentioned to you and repeat that it would have been a feasible project to take gas to certain other cities from Turner Valley had there been an assurance of a continued supply for twenty years.

Q MR. BLANCHARD: Might I ask when that survey was made ?

A Somewhere around 1930.

Q MR. CHAMBERS: Around 1930 ?

A About 1930. I was employed by the Seattle Gas & Light Company.

Q What would be the length of the pipeline in mileage to Moose Jaw roughly, do you recall that ?

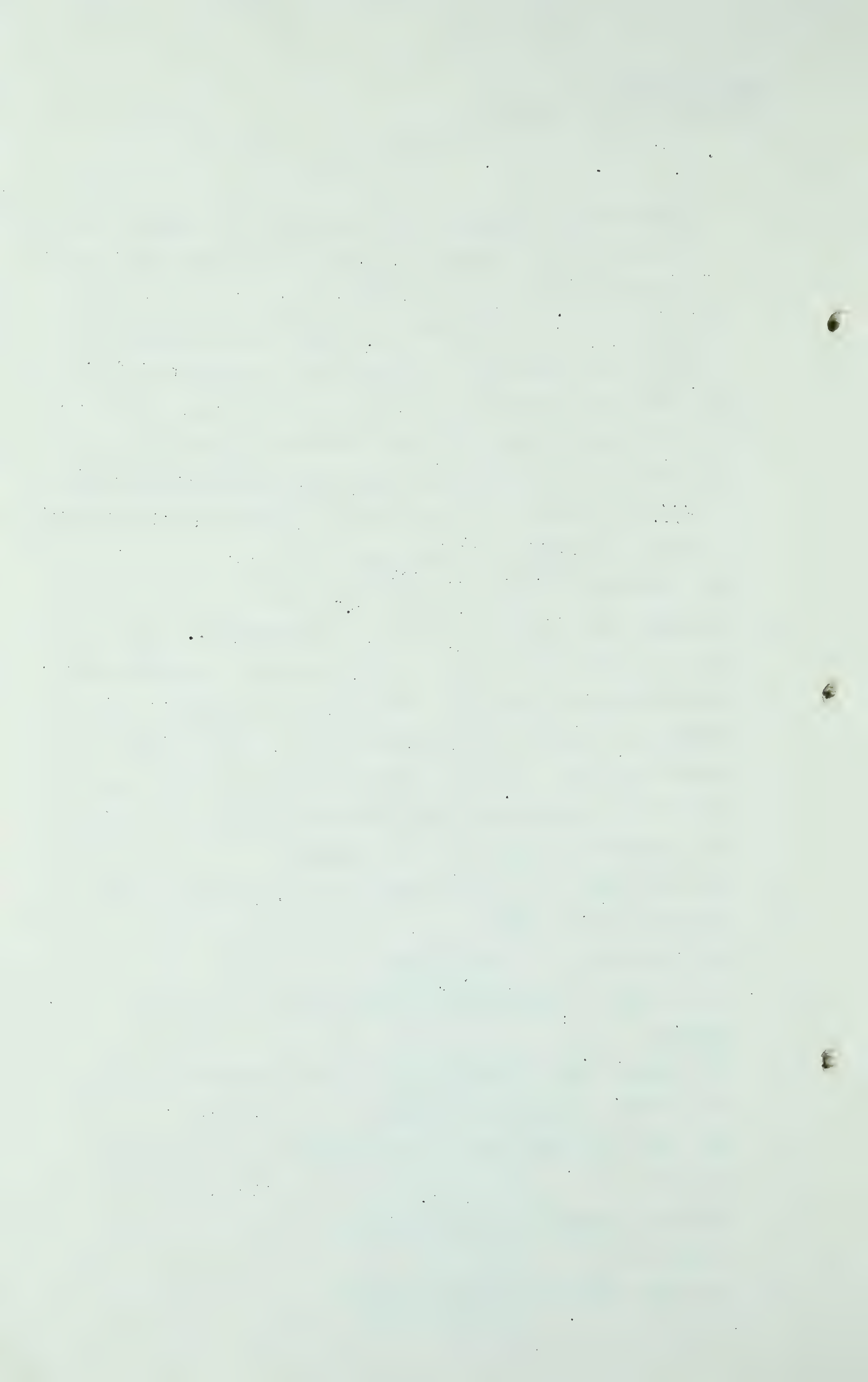
A No, I do not recall that. What would it be, four hundred miles ?

Q Somewhere around four hundred miles ?

A I guess so.

Q And Regina would be another fifty ?





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5464 -

A Yes.

Q And Winnipeg do you recall around seven hundred to seven hundred and fifty ?

A From here ?

Q Yes, Winnipeg.

A Well I thought it was farther than that from Regina.

THE CHAIRMAN: Isn't Winnipeg about a thousand miles ?

A Yes, I think so.

Q MR. CHAMBERS: Now what was the size of the line you considered when you were making this review ?

A Well if it matters, we considered several sizes. A man has to look at the thing and consider how much gas they are going to take and what you can do with a fourteen inch, sixteen inch, or eighteen inch line. When you are studying a project like that you usually run it out on two or three sizes and then select the size which is most economical for those circumstances. A larger line lowers pressure, smaller higher pressures. Lots of things, too, price.

Q I take it from what you said you have no data with you that you used on your review ?

A That is a fact.

Q But, Mr. Davis, I suggested when you make that statement on Page 6, you must have had data because you make a very definite statement there that the principle reason that this project was not gone ahead with was the wasteful program of using gas in Turner Valley. Now I want to explore with you. There could be some other reasons and don't you think the size of pipe might be one of the reasons ?

A Well let us say the pipe took gas into Winnipeg. The thing you would have to consider would be how much gas you can sell in a



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5465 -

year and what would be your load factor.

Q What would be your maximum load in the winter ?

A Yes.

Q And what would be the maximum load in the summer ?

A Yes. How can you take care of that business after building it up say for five years.

Q You have to build it up for the future ?

A Yes. And what you have to know in the way of pipe lines, let us say for the sake of argument, it might be a sixteen inch line with pressure stations two hundred miles apart, maybe five hundred miles apart the first year, and then add compressor stations as time goes on until eventually you have got your stations even as close as seventy-five or one hundred miles. In other words you put the dollars in after you get the business on to the extent you are building. You make this calculation. You find out how much gas you can sell, what peak loads you have got to meet; how much the gas would sell for and, over there you would first lay out the competitive cost of coal because that is the market you are going into. You are going to meet coal there.

Q Competition with coal would be important there ?

A Yes. That would be the question and how you would come out with all this thing and you say, well now how much gas have I got behind this project, three hundred million a day in one year from Turner Valley. I wonder if they will give that, can I convince anybody that we will have gas to take to Winnipeg for more than ten years from Turner Valley. Could I have done that in 1930 or 1931, I did not believe it myself, so why try to convince somebody else and I could not make the





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5466 -

project to pay out in ten years. I am only trying to make it clear to you. You have raised the question of why I did say definitely that one of the more important considerations was the fact that gas was being wasted. I want to make it clear to you it was an important consideration.

Q You say it was the principle one ?

A I still say so, whether you are going to pay a pipeline out in ten years or twenty-five years.

( Go to Page 5467 )



T-3-1 12.30 P.M.

Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5467 -

Q Well in other words . . . . .

A The cost of operating a pipeline deals with capital costs and not the daily operating payroll costs.

Q And the capital costs involve heavy capital charges in the rates?

A Absolutely.

Q And building a pipeline from Turner Valley to Moose Jaw or to Winnipeg and taking in Moose Jaw and the other larger places along the line the load is pretty thin is it not?

A That is right.

Q And before you build or embark upon an expenditure of that size you want to make sure you are going to have a sufficient gas supply do you not?

A That is imperative in my judgment.

Q Can you give us any approximate figure of what the cost, the total over-all cost of building that line was at the time you made your review?

A Well I did not anticipate that you would enquire into that. But I would say \$20,000,000.00 maybe, some large figure.

Q Well now, before you embark on an expenditure of \$20,000,000.00 you need a pretty heavy gas reserve in sight, do you not?

A That is right.

Q Do I understand you to say that the reason there was not a sufficient gas reserve in sight to enable that line to be built was because there was waste going on in Turner Valley?

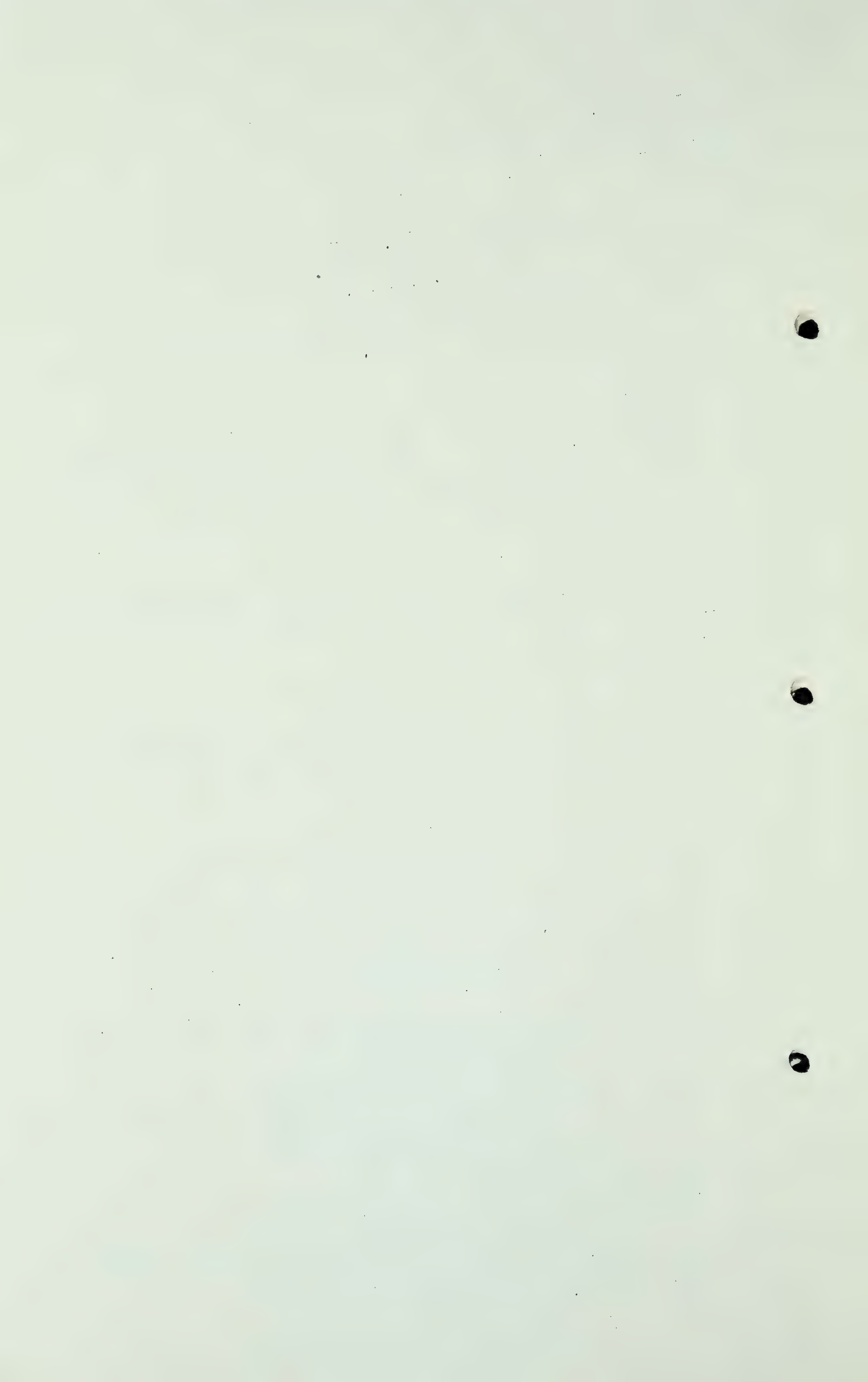
A I would say that was a principal reason.

Q The principal reason?

A Not the only reason, a principal reason.

Q What reserve, roughly, should there be in sight before you start out on a project of that magnitude?





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5468 -

A A project of that magnitude I believe should have, in order to be able to finance it, to get the money for it, 15 years would be a minimum period and 25 years would be very satisfactory and 20 years, I think, would meet the bill.

Q You would have to have . . . . . You would figure that on a minimum consumption would you not, what you are going to get paid for each year on a 15-year basis. Roughly, what amount of gas would that line handle?

A I cannot remember. I made the study 15 years ago.

Q What I am trying to examine you on is . . . . .

A You examine me on what I have said and not on some figures I have not thought over for 15 years.

Q Now, Mr. Davis, I will put this proposition to you. The reason I have tried to get this other information from you was to test whether there were sufficient reserves. You see you come in here and make the statement that the industry in the Turner Valley by reason of using a wasting method was the principal reason why there was not a gas supply to Winnipeg. I think, in deference, I am not being too technical or too inquisitive to find out what is behind that statement. Do you see what I am getting at?

A Well I will withdraw my objection to your question. I will go as far as you like and if I cannot remember something I will tell you I cannot remember.

Q Certainly.

A Let us keep going. Do you want to know how many meters we are going to have?

Q No, I do not want to know how many meters.

A I would not remember anyway.

Q What I am saying to you is this, that with a capital invest-



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5469 -

ment of that nature, whether you are going to operate 15 or 20 or 25 years, you would have to, in order to make it pay, put a large quantity of gas through that system?

A That is right.

Q And I am putting this to you, assuming there had not been one M.c.f. of gas produced out of Turner Valley whether there was enough known gas supply at that time to warrant that line.

A I think so.

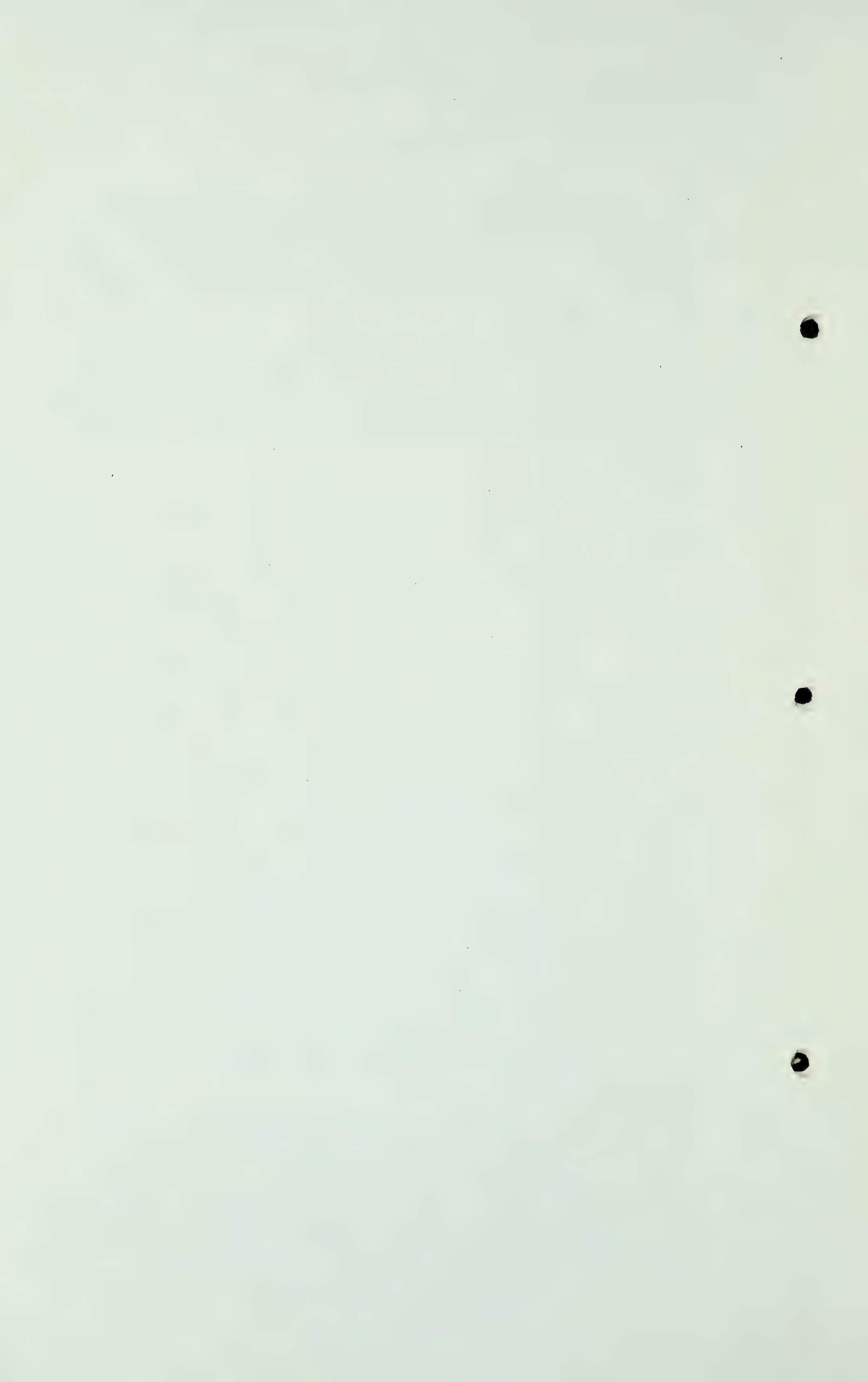
Q You say you think so. You must have some figure or reserve in mind. That is what I am trying to get at.

A I do not remember, Mr. Chambers, what our conclusions were back about that time as to the ultimate reserve of Turner Valley. I think we must have at that time considered the field as being good for an ultimate of several hundred billion cubic feet. Since then, the field has been extended in its length. That is our knowledge of the field, we have found it is longer than we thought it was in 1930, and more gas. What I am trying to do, getting now to that delicate question of yours of whether or not there was enough gas there in 1930 to have justified a line had there been no gas wastage, I might tell you that that is my recollection that we did find at that time, or consider the field to be good for several hundred billions at least, not the trillion or more that has been taken out of it. But it would be several hundred billion.

Q You are not in a position now to tell me what specific or what minimum reserve you had in mind?

A I think after lunch I could tell you if you are anxious to know about it. Or we'll get it down at the Gas Company. I think I can find something I wrote in those years.





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5470 -

Q On that same page 6 of Exhibit 148 you state at the bottom of the page: "I have no doubt that one or more carbon black plants could and would have been built to use Turner Valley gas had the program of production been one of conserving gas." Now have you any particular time in mind as to when those plants might have been put in, if this wastage had not taken place. What period have you got in mind?

A I think right back there in the period between 1925 and 1930.

Q Then on page 12 you refer to carbon black again, down at the latter part of that long paragraph. "These prices have recently been adjusted substantially upward from  $3\frac{1}{2}\text{¢}$  to 5¢ per pound for channel black and based upon my own long familiarity with the carbon black industry, I believe that within a comparatively short time, carbon black will be selling at a price that it will make it profitable to use Turner Valley gas for that purpose." You admit, as I understand it, that the price of carbon black would have to go up higher than it is now in order to make it from Turner Valley gas.

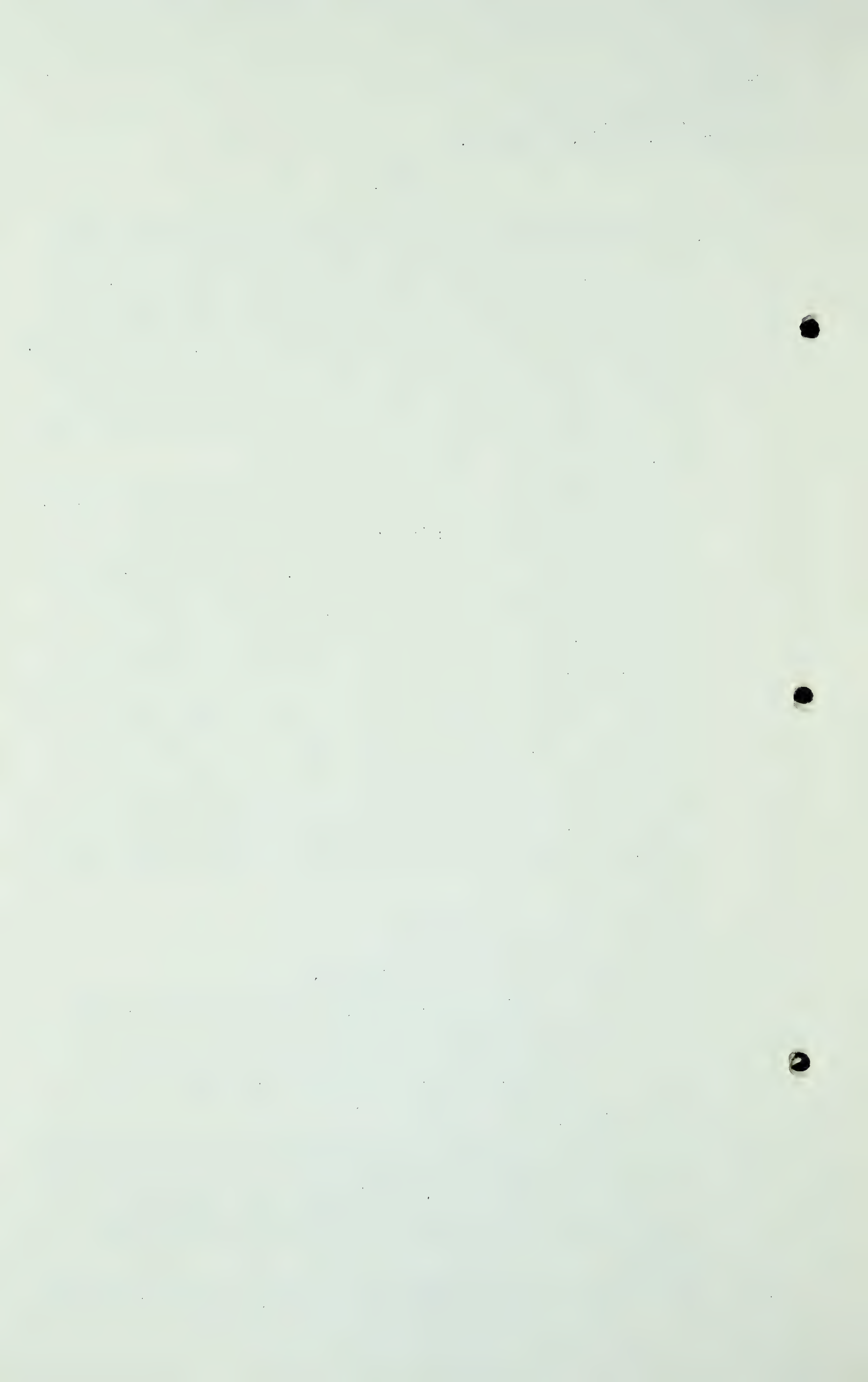
A You say I do admit that?

Q I am asking you if you do admit that.

A It would not have to particularly. That is carbon black could be made in Turner Valley today and on the basis of present selling prices. Or I think they could do it on present prices.

Q What I am getting at, Mr. Davis, is you say "I believe within a comparatively short time." I infer from that you do not think it could at the moment, as not being commercially sound.

A Well I said in a comparatively short time. People will not



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5471 -

come in here and build a plant if the margin of profit is extremely narrow. They only build carbon black plants if they feel there is going to be money made. They are not interested in a  $7\frac{1}{2}\%$  return.

Q In other words, has not this been the experience in the United States, that in order to manufacture carbon black at a price that will compete on the market, you must have very low priced gas?

A You must have had low prices for gas during the last 10 years or more to have sold carbon black at  $3\frac{1}{2}\%$  a pound, you have to have low prices.

Q As a matter of fact, is it not so that some of the States by legislation prohibit gas being used to manufacture carbon black?

A Yes, that is so.

Q Now we are talking probably about motives of Legislatures but I think you would be as competent to talk about the motives of your Legislatures as ours, I suggest. I suggest that one of the reasons is that the use of gas for carbon black has been regarded as a matter of policy as being the next thing to wastage, is that not right?

A That has been the view of a lot of people.

Q And some of the states have put laws in to prevent it for that reason?

A Yes. Even legislators in some of our states may not be wholly advised regarding the merits of black.

Q Then is my inference right that your statement on page 12 is that you do not think at the moment that the price of carbon black is sufficiently high that it would attract a





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5472 -

carbon black industry to Turner Valley?

A What would they pay in the Valley for gas? Maybe . . . . .

Q I assume you took that all into consideration when you made this statement.

A If they pay what I think gas is worth out there, they would not do too badly. You know there are two main processes for making carbon black, the old process and still widely used and necessarily used and the channel process. The channel process makes between one and two pounds of black, usually. Sometimes they get that up to three pounds or more, but broadly speaking, I would say about an average amount of black made by that process today is only about a pound and a quarter.

Q MR. STEER: Per thousand feet?

A Yes, per thousand cubic feet. Turner Valley is rich in certain hydro-carbons that produce a large amount of black. Methylene makes but little black, less than a pound per thousand cubic feet whereas higher hydro-carbons, ethane, propane, butane, etcetera bring that recovery up and it sometimes gets up as high as I have told you, three pounds. Without having gone into it in any detail I would say I would rather think we would get a pound and a half out here in the Valley, a pound and a half of black, even by the channel process. If we were making black by the chamber process, we would get somewhere between 5 and 12 pounds of black. 7, 8 or 9 anyway. 7 pounds of black. The price of that black today varies between  $3\frac{1}{2}\text{¢}$  and 5¢ a pound.

Q Where is the 5¢ rate? Where does the 5¢ rate apply and why does the price vary? Is it according to the place of manufacture?



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5473 -

A Difference in quality.

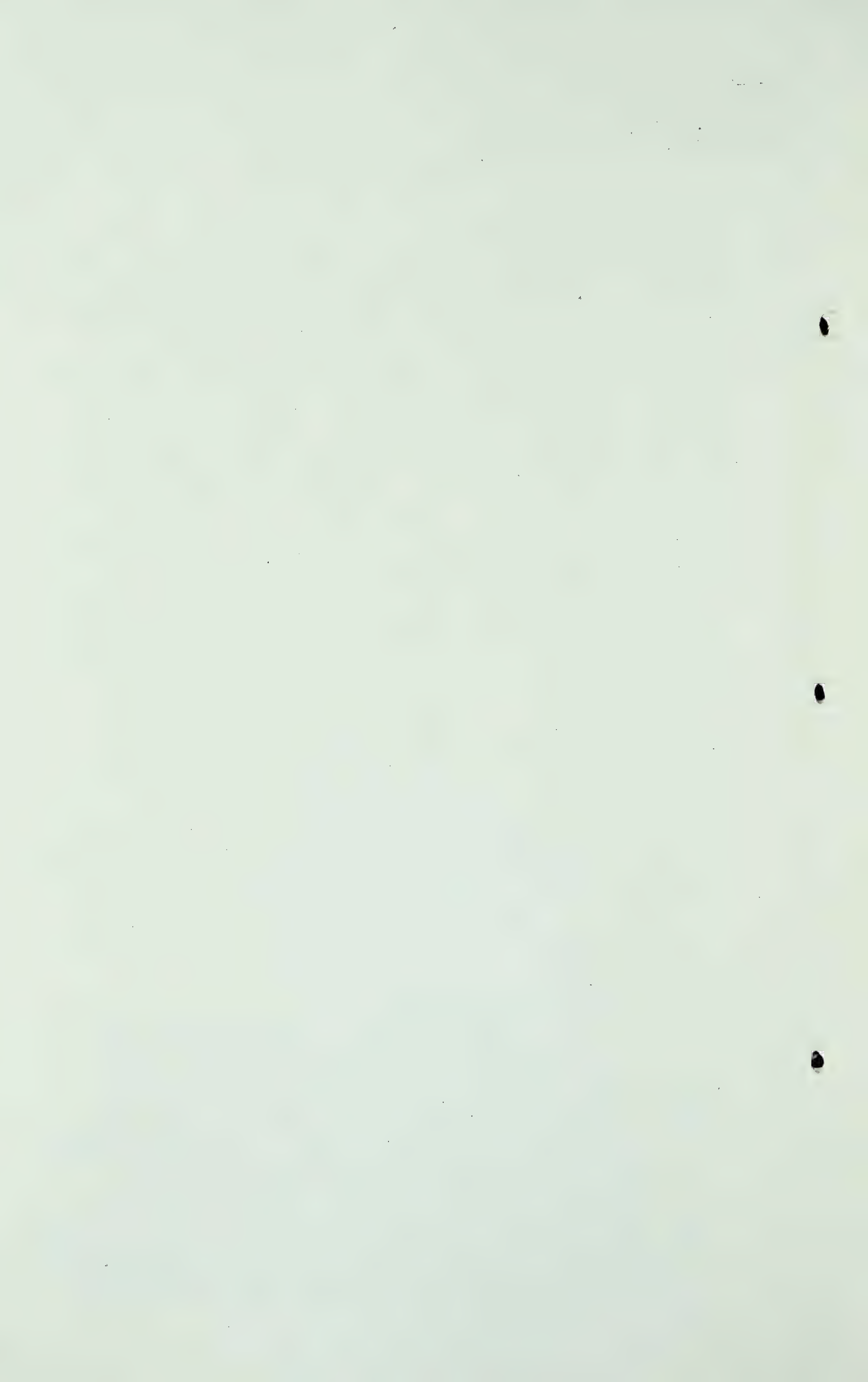
Q Does not the place of manufacture have something to do with it, the cost of getting it to where it is going to be used.

A Yes, that has a little to do with it too. I am quoting prices at Border, Texas, which is the place where more black goes to market than any other place. If you happen to be closer to the market, then you have a lower freight rate and that advantage occurs to you. If you are further from the market, the disadvantage is absorbed by you. So I did, for the United Carbon Company some time back make a study of the possibility of putting a plant in in Turner Valley. We were thinking about a chamber plant. There was a great shortage of black during the war and we were trying to find a place to build these plants. I suggested to Mr. Oscar Nelson the possibility of Turner Valley or Kinsella, figuring that Canadians would be as willing to let us burn gas for the war effort as we were willing to burn our own. At any rate we made an investigation of the problem. We looked up freight rates from points up here to Chicago, Akron and to Detroit and places where black is used in substantial quantities, especially Akron.

Q That was for the tire business?

A That is the tire, rubber business. That is the big consumer. 80% or more, I presume, almost 90% of the black used in the world is used in rubber. Incidentally, 95% of all black made in the world is made in the United States. I do not know why foreign people do not begin to make a little carbon black for themselves. I rather think they will. At any rate they will if they find it selling for 10¢ a pound and it is only 25 or 30 years since it did sell for 28¢ a





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5474 -

pound.

Q But getting back to that statement on page 12, you say:  
"These prices have recently been adjusted substantially upward from  $3\frac{1}{2}\text{¢}$  to  $5\text{¢}$  per pound for channel black and based upon my own long familiarity with the carbon black industry, I believe that within a comparatively short time, carbon black will be selling at a price that will make it profitable to use Turner Valley gas for that purpose."

Now what price of Turner Valley gas have you got in mind, 2 cents?

A 2 cents.

Q 2 cents at the well head?

A 2 cents at the well head.

Q Am I right in assuming this, that the price at which you could sell carbon black or the cost, including 2 cents for the gas, would have to be in your opinion somewhere higher than 5 cents for the finished product in order to make the thing pay?

A If I am making 7 pounds of black out of a thousand feet of gas and I am going to get or take the  $5\text{¢}$  figure. That figure up here would become about  $6\text{¢}$  with the additional freight. I beg pardon, it would be about  $4\text{¢}$  on account of the additional freight. So I will have 4 times 7 and I am going to get  $28\text{¢}$  f.o.b. cars around Turner Valley, somewheres around  $28\text{¢}$ . I pay 2 cents to these gas people for the gas and I have  $26\text{¢}$  left to manufacture, not 1 pound but 7 pounds. Wait, I beg pardon. I make 7 pounds for one thousand feet of gas, that is 2 cents and freight on 7 pounds would be about 15 cents, that is 17 cents. My stuff is worth 4 times 7 which is  $28\text{¢}$ . A chamber process



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5475 -

plant is today a feasible project in Turner Valley.

Q So that the price that could be sold for on the competitive market would be feasible there today, including transportation for the product by truck or some other way other than train from Turner Valley to Okotoks?

A Well I think we might run a line over there and build our plant near Okotoks.

Q But that would affect the cost?

A That would make it a little more costly, sure.

Q What I am getting at is, in reference to this statement on page 12 when you talk about carbon black, is this a fair way to put it, that you did not sit down and work out the whole thing in detail when you made that statement?

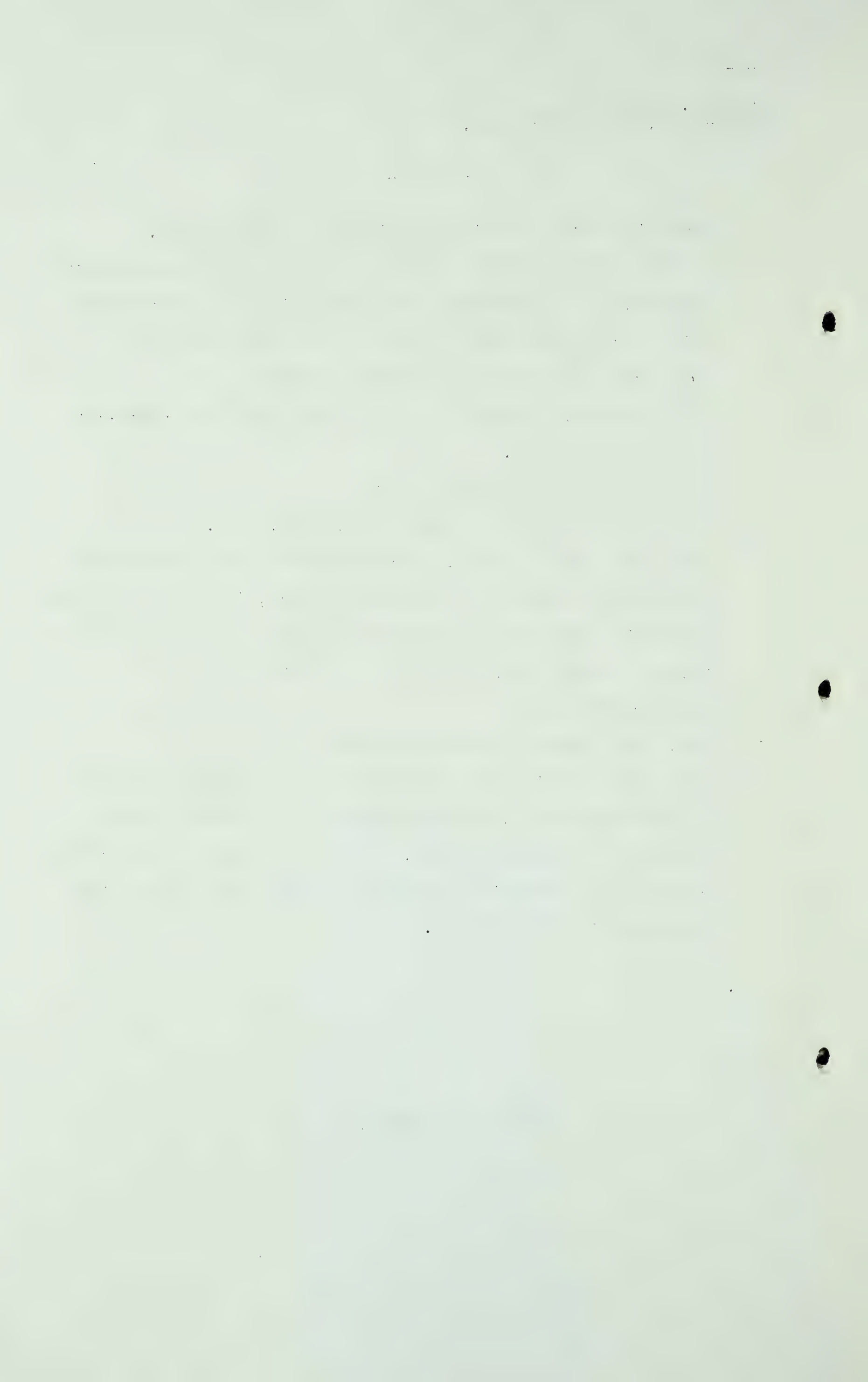
A About carbon black?

Q Yes, with respect to Turner Valley.

A Well, you have in mind I just got through telling you in the past two years, at the request of the United Carbon Company, I searched for gas, sources of gas for that carbon company to enlarge their output and among the places given consideration was Alberta.

(Go to page 5476)





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5476 -

Q Yes, but what I am getting at, you have no specific places that back up or on which you base that statement?

A You mean here?

Q I mean from your general knowledge?

A You mean here?

Q Your general knowledge?

A I have lots of papers in the Pittsburgh office where that was done.

Q Which you have used for arriving at this conclusion on Page 12?

A Which conclusion?

Q You say:

"These prices have recently been adjusted substantially upward from  $3\frac{1}{2}$  centst to 5 cents per lb. for channel black, and based upon my own long familiarity with the carbon black industry, I believe that within a comparatively short time carbon black will be selling at a price that will make it profitable to use Turner Valley gas for that purpose."

Now as I understand it you are saying here, it should be done right now?

A I think it can be done right now on channel black, do I not say that, channel black?

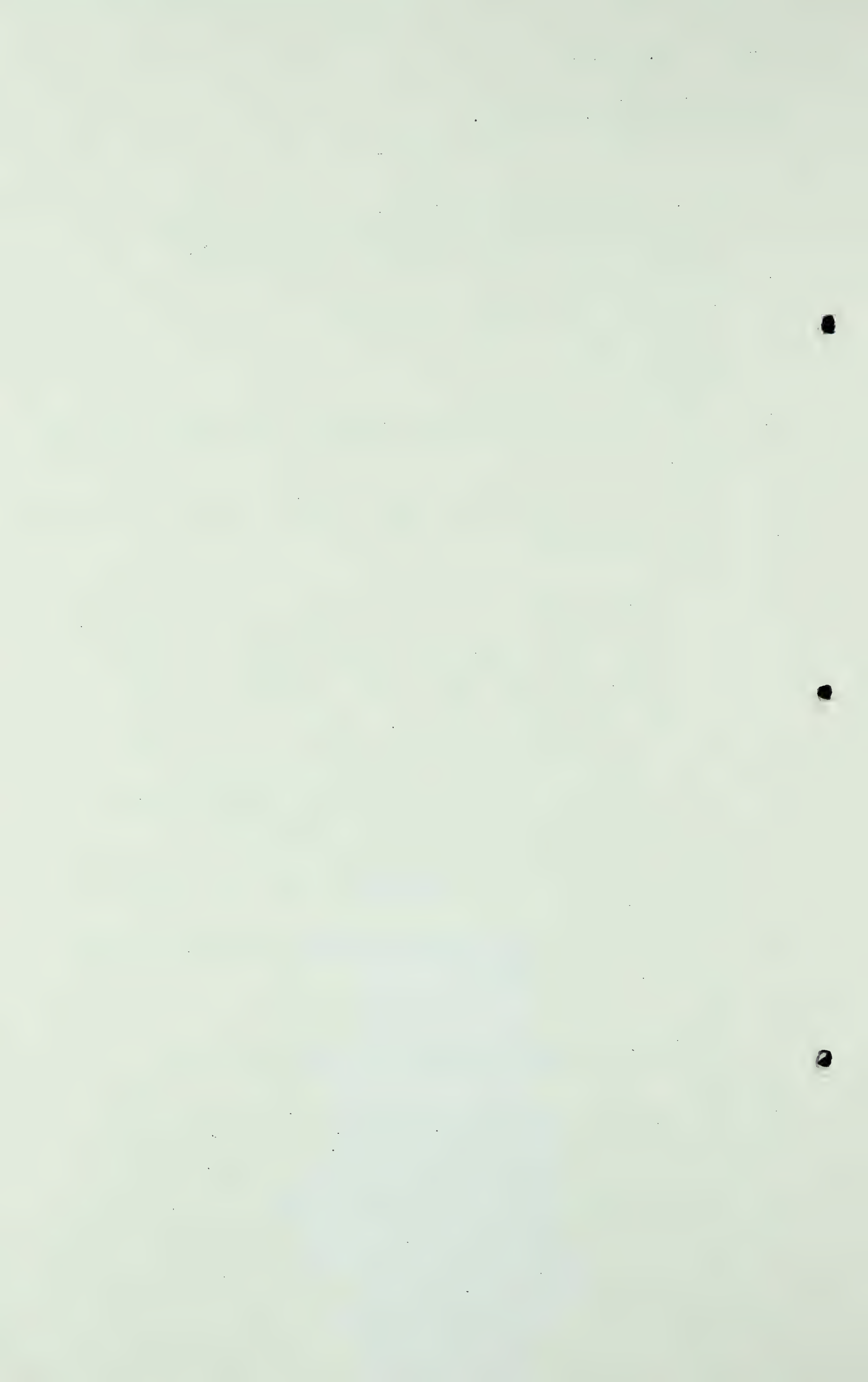
Q Yes.

A All right. Now why did we not do it two years ago?

Q Yes?

A When Mr. Nelson was looking, with me, over the States, we had to take into account all the merits relative to the different places and we went into the Hugoton Field. Mr. Nelson built a plant there for, I think, it burned 48 million feet of gas a day.

Q MR. BLANCHARD: How many?



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5477 -

A 48 million, and he paid, he owns most of the leases, and he produces his own gas but he pays the royalty owners a half a cent a thousand, that is he prices the gas at 4 cents and that is the same rate which the Pipeline companies are paying in the field.

Q MR. CHAMBERS: Would that be at the well-head or gathered?

A The royalty owner, he gets it down in the ground. The royalty owner does not do anything. He just sits there.

Q And he gets 4 cents for it right in the ground?

A When it is produced he gets 4 cents for his share. His share of the cost is  $1/8$  and he gets a half a cent for that  $1/8$  or 4 cents for his share. Now Mr. Nelson has authorized me to negotiate for gas for carbon black in the States, and at prices for the gas competitive with the natural gas pipeline companies.

Q Is this so, Mr. Davis, that the price of carbon black today is as high as it has ever been?

A The price of channel black today is 5 cents f.o.b. the plant and in 1919 the price of channel black was 29 cents.

Q What was it back in 1930?

A Well, it was still, I think, about 6 or 7 cents, right after the beginning of 1930 the carbon black began piling up in the warehouses.

Q And a carbon black plant, it would have to be a certain size to make it pay, would it not?

A Yes, I think a carbon black plant should annually run a minimum of 15 to 20 million feet.

Q A day?

A A day, whereas the channel processing plant should handle half that much.





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5478 -

Q And if you were putting up a plant, I am not entering into the question of what it would cost, I do not want to get into that, but you would have to build a plant that would run for a certain number of years, to get the cost out of it?

A We never consider putting a plant in unless we have ten years' gas supply.

Q Yes?

A At least ten years.

Q Now then you also state on Page 12 of Exhibit 148, or you ask the question rather, and you must have had something specifically in mind here:

"Who can say that within a very few years there will not be an endeavour to use natural gas from Turner Valley for some chemical use?"

What chemical uses had you in mind there?

A Well I would not be bothering about thinking of some chemical use which would require a very small amount of gas, because that would not affect what we are talking about.

Q That is exactly what I was coming at.

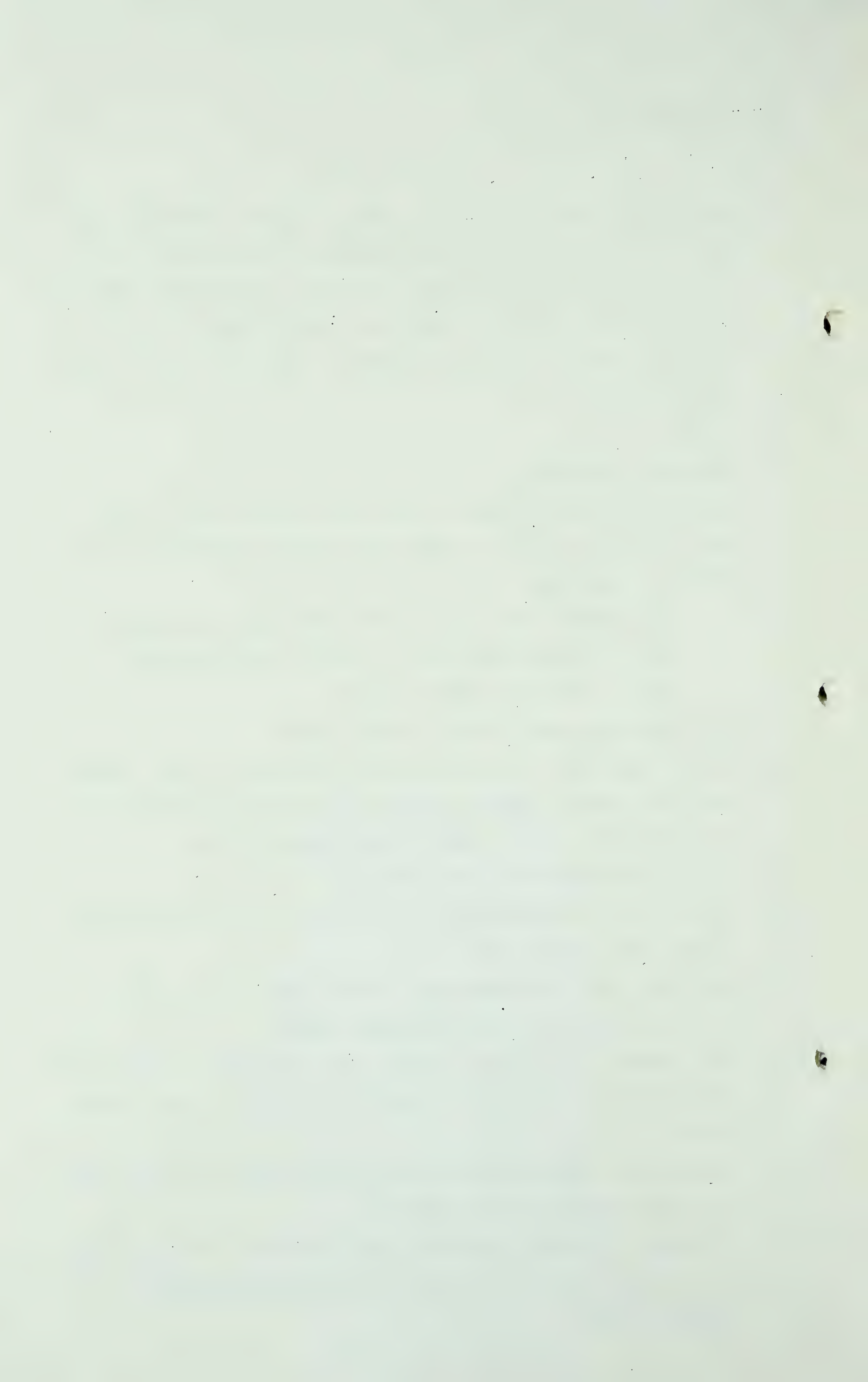
A That is it. My basis is ten, twenty, forty, fifty million cubic feet of gas a day.

Q And when you talk about these plants, ten years would be the period you would have to think about?

A They would have to have at least ten years and it might be a plant to make gasoline or it might be a plant to make carbon black.

Q Do you know anything about the Fischer-Tropsch plants, have you given any thought to those?

A I am not a chemical engineer, but I am familiar with some of the plans that they have for building large plants in the United States.



Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5479 -

Q And is it not fair, - do you know enough about it to answer this, that these Fischer-Tropsch plants involve a large capital expenditure, and that they anticipate large gas reserves?

A I know that.

Q And you would have to have something in the order of probably 50 million a day for those, would you not?

A Well one plant I have in mind is expecting to burn 100 million feet a day and I think the investment in the plant will be in the neighbourhood of ten million dollars, and they would not think of building a plant if they had less than a ten year supply, I know that.

Q You were here earlier in this Hearing, Mr. Davis, when we were talking about the remaining available supplies in Turner Valley and I think you were here also when they talked about the market, how much they could sell; now what I am getting at is this, and I am asking you whether you are recommending or would be prepared to recommend that the Gas Company and the City of Calgary should postpone their prior claim to Turner Valley gas to make it entirely available for these carbon black industries, Fischer-Tropsch or any other of this kind of industry we have been talking about.

MR. FENERTY: Well now.....

WITNESS: The City of Calgary would give up its prior claim, you say?

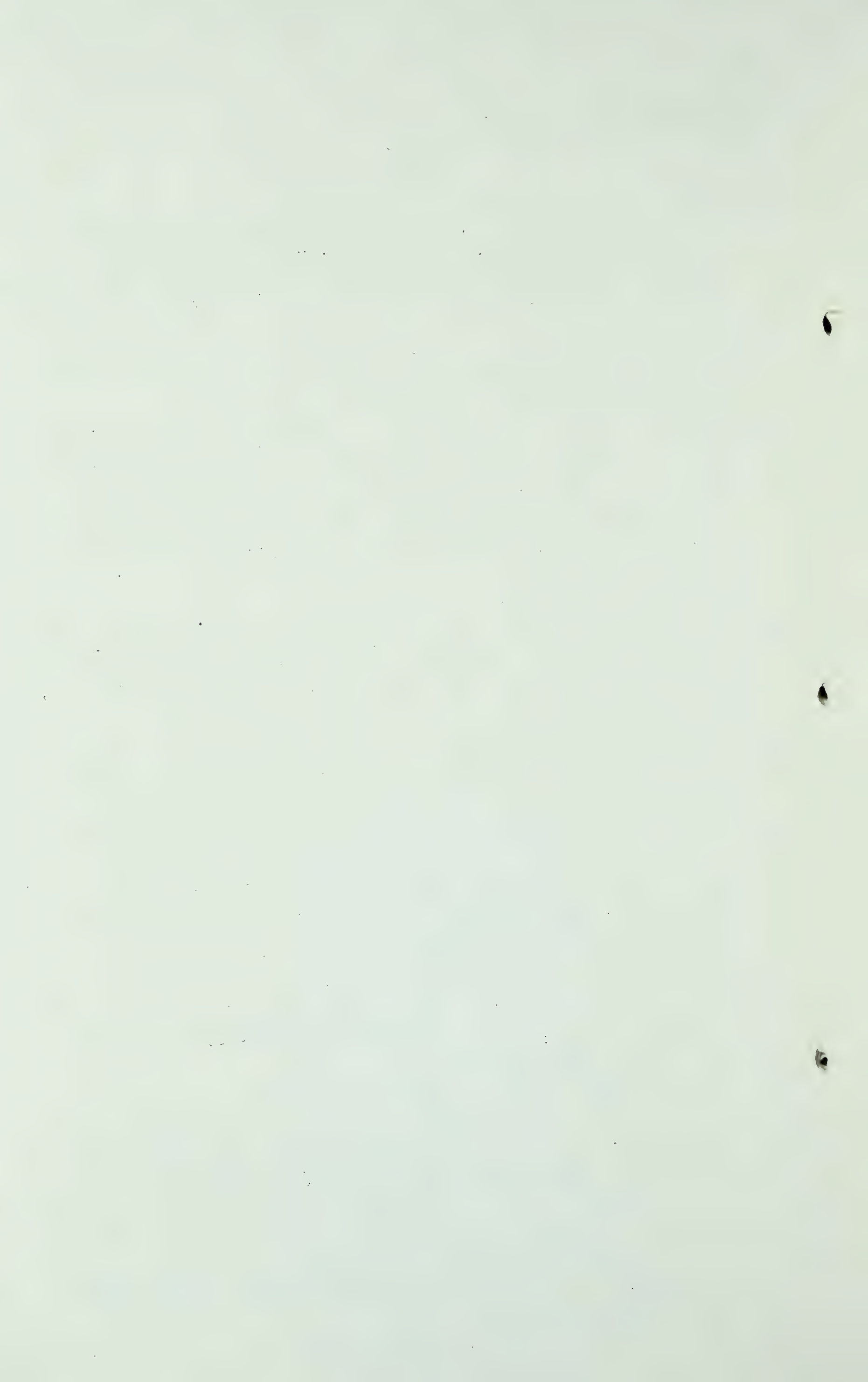
Q MR. CHAMBERS: Yes?

MR. FENERTY: Well just before that question is answered, I presume that is a hypothetical question?

MR. CHAMBERS: I am asking him if he would recommend or if he would be prepared to recommend it.

MR. FENERTY: Is they have a prior claim, would they postpone it?.





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5480 -

MR. CHAMBERS: The Royalite contract is in.

MR. FEERTY: Are you making the suggestion to the witness that the City of Calgary has a prior claim?

MR. CHAMBERS: The City through the Gas Company.

MR. FEERTY: I submit this must be a hypothetical question.

MR. CHAMBERS: All right, I will make it a hypothetical question, I will adopt it as a hypothetical question.

MR. FEERTY: That if they do have a prior claim they should postpone it.

Q MR. CHAMBERS: Yes, I will adopt that.

A Usually people do not give up anything unless they have to. I would not urge that on them. If I have something it is unreasonable to give it up until I have to.

Q What I am getting at is this, you have told us that the carbon black plant and these other chemical plants require a large reserve of gas before you should build them?

A That is right.

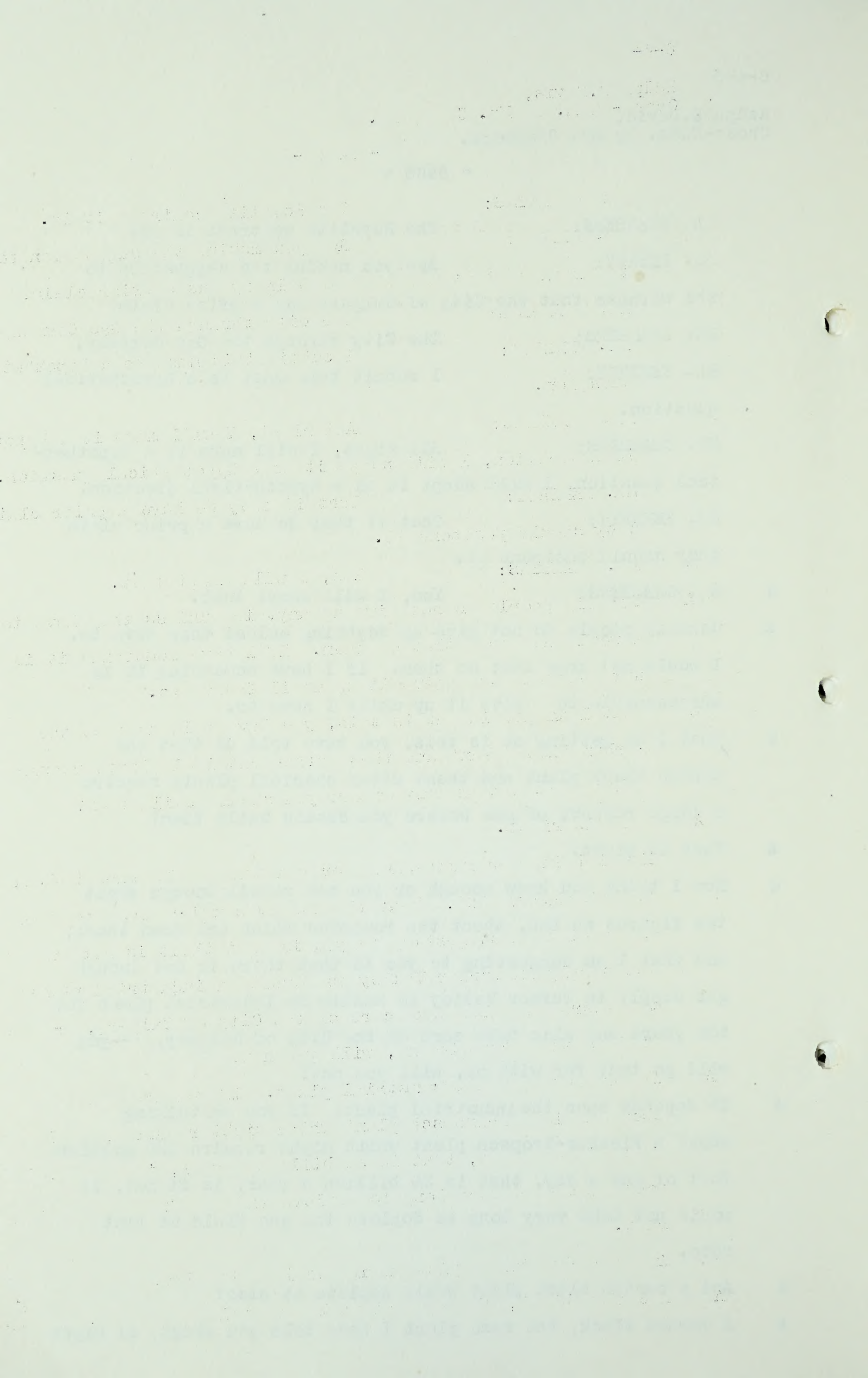
Q Now I think you know enough or you can recall enough about the figures we had, about the reserves which are down there, and what I am suggesting to you is that there is not enough gas supply in Turner Valley to handle an industrial plant for ten years and also take care of the City of Calgary, - you will go that far with me, will you not?

A It depends upon the industrial plant. If you are talking about a Fischer-Tropsch plant which might require 100 million feet of gas a day, that is 36 billion a year, is it not, it would not take very long to deplete the gas field at that rate.

Q And a carbon black plant would deplete it also?

A A carbon black, the same plant I have told you about, it might





Ralph E. Davis,  
Cross-Exam. by Mr. Chambers.

- 5481 -

put into use half of 15 or 20, 10 million a day, what is that, that is just 10% of the other. I would not recommend against, if I were advising the City, I would not advise them against inviting it to come in if it were intended to use something like 10 million feet of gas a day.

Q But if it was 20?

A If it was going to use 100 I would.

Q What about 20?

A Well if I were the adviser of the City in a hypothetical situation like that, I would advise them not to let them put anything in that I could keep them from putting in.

THE CHAIRMAN: 9.30 tomorrow morning.

(The Hearing was then adjourned, to be resumed at 9.30 A.M. February 19th, 1946.)



